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EDITOR  
WITMER STONE



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*W. D. S. Miller*

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IN MEMORIAM: WALDRON DEWITT MILLER,  
1879-1929.<sup>1</sup>

BY JAMES P. CHAPIN.

*Plate I.*

ABOUT three years ago I was in the sidecar of my old friend Waldron Miller, being driven rapidly from South River to New Brunswick, New Jersey, after a pleasant day looking for Wood Ducks and renewing old memories. We had revisited spots where he led my youthful steps more than twenty years ago. Then Alanson Skinner and I often met Miller at South River or Old Bridge, and wandered off for the day in pine woods and swamps. Toward evening we would bid him good-bye as he bestrode his motorcycle and started home for Plainfield.

In recent years my excursions in New Jersey had become fewer but most of them were in Miller's company, his interest in the region never having diminished. In this highly mechanized age, far distant countries would seem safer than home for on this same road—the familiar route that led to the northern pine barrens—Miller was fatally injured. On August 4, 1929, as he was riding along close to South River he collided with a motor bus and received injuries from which he never rallied. The end came at St. Peter's Hospital in New Brunswick on August 7.

Waldron DeWitt Miller, the elder son of Major William DeWitt Miller and Grace Waldron Miller, was born in Brooklyn, New York, on February 4, 1879. In April of the following year the

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<sup>1</sup> Read by title at the Salem and Detroit Meetings of the A. O. U., October 23, 1930 and October 20, 1931.



family moved to Plainfield, New Jersey. In that favorable locality his love of nature developed early, he had the inborn bent that so often produces the true naturalist. His sisters recall that his first interests as a small boy were in curious stones and in cocoons which he kept indoors so as to watch the moths emerge. Toward the age of ten the study of birds began to attract him, particularly their nesting habits. Among his papers I have found a yellowed clipping from the New York 'Mail and Express' of 1893, a column devoted to the habits of the Wood Pewee, with the notation below: "Written and illustrated by Master Walter [sic] D. W. Miller, aged 14." The author's sketch was probably copied on stipple-board by a newspaper illustrator, but the text is plainly Master Miller's. It not only described the appearance and voice of the bird but also its nest and eggs, and points out, in addition, the distinctions between the nesting of the Wood Pewee and the Phoebe.

About the time of this first publication Waldron Miller left school in Plainfield and attended the Academy in East Greenwich, Rhode Island, for two years. Another clipping from a Plainfield newspaper tells of his return from the East Greenwich Academy: "At the commencement exercises he was awarded the prize for the best herbarium, containing over eighty specimens." This interest in botany was developing side by side with his ornithological tastes. Miss Julia Noll, an accomplished botanist, who was affectionately known as "Auntie" in his family, used to take him on walks and introduce him to the plants with which she was so well acquainted. In later years it is interesting to know that Miller took his aunt on excursions to show her still rarer species.

After graduation from the East Greenwich Academy, Miller lived at Plainfield, and took a position in an insurance office in New York. His natural history studies out-of-doors were not interrupted. Excursions into the country about Plainfield were made at every opportunity, the Watchung Hills and Ash Swamp being favorite stamping grounds; and he used to tell me of youthful cycling trips as far as the Great Swamp west of Chatham.

In his early teens, although not socially inclined, he was in great demand among the young people of his neighborhood who called on him to answer questions relating to birds and flowers, Ernest



Suffern being his particular friend. Together with his aunt Waldron developed a wild-flower garden.

Unlike some of us, who became lovers of birds while collecting specimens, Miller was always respectful of their rights. Many years passed, I believe, before he found it advisable to put a bird to death in order to know it better. Keen sight and hearing, with a will to look ever harder at it, enabled him to overcome difficulties of identification. The works of John Burroughs formed an important item in his early reading and aroused his admiration, but he used to tell with amusement of his disobedience of the injunction in 'Wake-Robin' not to "ogle" birds with a field-glass. On the contrary, Miller continued to stare at live birds, feeling that mere identification was but the beginning of an observation. Then he would watch and listen for peculiarities of form, behavior, and voice. He early began sending in migration schedules to the Delaware Valley Ornithological Club in Philadelphia and in 1900 was elected a Corresponding Member.

About this time he made the acquaintance of William Dutcher, then a resident of Plainfield. Mr. Dutcher recognized the ornithological talent of his young neighbor and introduced him to Dr. Frank M. Chapman through whom Miller was engaged in 1903 as assistant in the Department of Mammalogy and Ornithology at the American Museum of Natural History in New York. Up to this time his studies had dealt mainly with the birds of the eastern states, yet he had read widely, and must have been well informed on general ornithology. To Elliott Coues' books he often referred, and he was a trained man in that he knew how to extend his horizons.

At the Museum he found his opportunity, with collections and library available, under the guidance of Doctors Allen, Chapman and Dwight. Collections were being received from J. H. Batty in Mexico and Panama and from W. B. Richardson in Nicaragua, and Miller was encouraged to work up the birds.

My acquaintance with Waldron Miller began in 1905, and quickly grew into close friendship. Soon I was invited to join him in weekend and holiday excursions, mainly in New Jersey. To the best of my ability I haunted his office, for there I received a veritable course of instruction in systematic ornithology. But there was

outdoor teaching as well. From the bicycle as a means of locomotion he had changed to the more efficient motorcycle, and many times I rode on the rear of the machine from some railway station to a secluded spot where we left the road. Not only birds concerned us. We set mouse traps, rolled over stones and logs for hidden specimens, fished in streams, and I was shown the characteristic plants of each region. Once we went to Delaware and lived like tramps along the Nanticoke River; once we joined William T. Davis in visits to Lakehurst; and again we hunted for cave rats in the hills of northern New Jersey.

During the next couple of years I found part-time employment at the Museum and aided Miller when he rearranged the exhibition collection of mounted birds. As we regrouped the specimens according to the great regions of the earth, wiping dust from glass eyes and perches, Miller would explain to me the intricacies of geographic distribution and family relationships. Much of this I fear was forgotten, but what was retained seemed priceless when Herbert Lang took me to Africa, and how I used to wish that Miller were along with us.

For some years we were separated. And meanwhile others of my friends were receiving similar guidance from him, and he in the meantime was widening his own investigations. He had not only the skins and skeletons in the Museum, but also the birds received in the flesh from the New York Zoological Park. The works of Garrod, Forbes, Nitzsch, Gadow and Beddard were ever at his elbow and not even the "advanced" condition of some of his material could deter him from painstaking examination of all points of interest. What he learned was confided to loose-leaf sheets logically arranged, which are now carefully preserved in the Department of Birds.

Miller's desk radiated a magnetism that drew youthful students seeking assistance in their field identifications, or receiving the expert ornithological instruction which Miller was so happy to give to all comers. He had many other visitors including game-wardens, artists and commercial specialists in color, in addition to professional students of birds, sportsmen and teachers. His colleagues at the Museum found him ever ready to lend assistance and advice in questions of classification, anatomy and pterylography. To me, Miller was truly a professor of ornithology.

In his early years at the Museum he wrote a few systematic papers based on collections received from Mexico. It was planned that he should prepare a report on the birds of Nicaragua and, in 1917, accompanied by Ludlow Griscom, he visited that country to familiarize himself with ecological and distributional conditions. As was to be expected, he returned with a store of information on the habits, local occurrence, relationships and food of the birds which he had seen alive. The work on the report was to be continued with the able collaboration of Mr. Griscom but at the time of Miller's death it was still unfinished and it is fervently to be hoped that Mr. Griscom will carry it to completion.

Miller's interest in faunal reports was weakened by his enthusiasm for gathering evidence useful in classification. With due credit to the great workers of the past, it will be admitted that in this connection an enormous field of detail remains to be explored. Miller did not attempt to make complete dissections of the specimens he was constantly receiving but looked for particular characters, checking his findings with the classical works on the subject and correcting not a few of their statements. Where he was most expert was in pterylography and in the feathering of birds' wings he found a most promising field. First he took up the classification of the kingfishers with highly beneficent results, and later went even more deeply into the grouping of the genera of woodpeckers. He was willing to leave to others the discussions as to earliest names, and preferred to seek the biological and phylogenetic significance of the arrangement of toes, development of tongue, beak and rectrices, and any other characters, external or internal, which he could turn to account. Would that he had lived to publish the interesting results of his labors. But to everyone who shared his interest he generously imparted every piece of information he possessed so the knowledge is by no means lost. Pride of publication was wholly subordinated in his thirst for sound knowledge.

In 1911 Miller was made Assistant Curator and in 1917 Associate Curator of Birds in the American Museum. An Associate of the American Ornithologists' Union since 1896, he was elected a Member in 1906 and a Fellow in 1914. With Dr. Alexander Wetmore he was chosen to draw up the scheme of classification followed in the new 'A. O. U. Check-List.' In 1922 the British Ornithologists' Union elected him to Foreign Membership.

Notwithstanding this specialized work, most of Miller's other interests, far more varied than one might suspect, were kept very much alive. He loved music and in his home delighted in listening to reproductions of the great operas. Botany he pursued as an outdoor study and rivalled professional botanists in his field knowledge of the flora of New Jersey, which was his favorite if not quite his native state. The sedge family in particular attracted him and the plant specimens he preserved have all been presented to the New York Botanic Garden.

After the death of his parents Miller moved to Brooklyn; but his excursions were still mainly devoted to the state of New Jersey. Once in a while I accompanied him, and found no slackening in his enthusiasm or his vigor. Any idea that people may form of a staid curator in a museum would have been rudely upset if they had recognized this rough-clad, often mud-bespattered, rider on the country roads, or met him floundering through his beloved swamps. He seemed tireless and to witness his skill at tree-climbing was a treat. Snakes were among his favorite finds. Few were collected but many measured and released. Rattlesnakes pleased him especially, perhaps because every other man's hand was turned against them, for Miller had a feeling for the under dog. The naturalist, he believed, has a special responsibility in the matter of preserving the existence of as many as possible of his fellow-creatures.

Among Miller's personal friends were several men who found special pleasure in shooting birds of prey. On the one hand, this gave him an opportunity to examine the crop and stomach contents of many birds accused of every manner of evil. On the other hand, he foresaw the possible fate in store for our birds of prey. He watched them hunting and nesting and many an evening he picked apart owl pellets to gather additional evidence, whether for or against. Some will call it intolerance, but after years of study Miller felt most strongly that real danger threatens many of our predacious birds. They had suffered unnecessarily from the emphasis placed on the utility of insectivorous species and of those which possess a gastronomic value to man. If he spoke boldly on the subject, he spoke from the heart and from thorough knowledge.

To me, a comrade in Miller's visits to the nests of hawks and

owls, imbued with the joy of making a peaceful acquaintance with them, sympathy for predatory birds is a deep-rooted emotion. It seems true wisdom to preserve even apparently injurious species from wanton destruction. What moral right has man to decree the extermination of any bird which at worst merely reduces the numbers of some of its fellows? As biologists can we believe that the earth and all its inhabitants exist solely for the benefit of man? Let the farmer protect his live stock whenever necessary, but let us not encourage an ignorant prejudice which takes savage delight in slaughter. Natural checks on overproduction have their uses. It was a noble and fortunate sentiment that determined the choice of the Bald Eagle as our national emblem, rather than the Wild Turkey, or perchance the Mockingbird. These were Miller's feelings.

Anyone who has witnessed the "development" of areas adjacent to our great cities must reflect on the dubious future that awaits even remote sections of our country, especially its wooded areas. Forest preservation also appealed strongly to Miller but here again he looked before he spoke and in 1928 he made an extended trip with Willard G. Van Name through some of the finest forests of our West. Criticism of wrong policies must be made and should be welcomed if these treasures of our continent are truly to be conserved.

Waldron Miller was one of the incorporators of the New Jersey Audubon Society and became its Vice President. He devoted his life not only to the study of creation, but to its preservation for those to come after us. All the riches of our museums, he felt, will be of slight value to posterity as compared with the living animals and plants whose existence we shall have spared.

While Waldron Miller's relatives and friends were gathered to pay him their last respects in Plainfield on August 9, 1929, the notes of a Wood Pewee drifted in from the garden. The subject of his youthful essay was singing a requiem. Would that all of our fellow-vertebrates might survive to brighten the lives of our descendants.

To me, the passing of Miller has meant the loss of one of my dearest friends, a colleague who spared no pains to instruct and assist. His wide circle of ornithological associates will join me in

this sincere expression of our sympathy to his family. He leaves a brother and two sisters: Raymond V. V. Miller, Miss Anne K. Miller and Miss Emma H. Miller.

*American Museum of Natural History,  
New York.*



SOME INFERENCES FROM THE NEW CHECK-LIST<sup>1</sup>

BY JOSEPH GRINNELL.

It was Bradford Torrey who declared in the course of a most entertaining essay, "there's a world of good reading in a Check-List." That was upward of twenty years ago and Torrey's gently humorous as well as informative remarks were based upon the Third Edition of the 'American Ornithologists' Union Check-List of North American Birds,' then newly appeared. Now there has just been made available to the bird-conscious public the completely revised Fourth Edition, which is the result of several years' labor on the part of Dr. Witmer Stone aided by the other members of our Union's Committee on Classification and Nomenclature. More than any preceding edition does this present one provide fascinating reading for the bird student. I, for one, have already spent hours simply browsing through it—finally with an objective gradually crystallizing, of enquiring as to what implications it might yield as to the future developments in certain phases of North American ornithology.

Without, then, trying to enlarge upon any of the topics that were suggested by the 'Check-List' to Bradford Torrey and which he dealt with in so charming literary fashion, I venture to offer an analysis in rather serious vein. What can we infer from the present and preceding editions of the Check-List as to future trends?

My enquiry has to do with the numbers of forms (species and subspecies) listed in the first four editions, and then with the numbers likely to be reached in future editions, jumping to the hypothetical tenth edition, which for round figures' sake we will say is to appear in the year 2000, 69 years hence. Without inflicting upon my readers the objective details of a graph, I will admit that I resorted to a sheet of coördinate paper. On this I plotted, one way, the numbers of forms from edition to edition, and the other way, the lapse of years. Some of the figures thus ascertained are as follows.

The total number of forms (species and subspecies) in the first,

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<sup>1</sup> Read at the Detroit Meeting of the A. O. U., October 20, 1931.

1886, edition was 951, in the second, 1895 edition, was 1068, in the third, 1910 edition, was 1196, and in the present, fourth edition, of 1931, it is 1420. The corresponding figures for full species alone, are 768, 799, 802 and 811—a notably slow rate of increase through the total of 45 years. But look at the subspecies—183, 269, 394, 609! For fossil species, the figures are 46, 64, 72 and 156, the latter excluding ten named forms of “*sedis incertae*” and also many modern forms listed as from Pleistocene.

Now despite the irregular intervals between the publication dates of the four editions (namely, 9 years between first and second, 15 years between second and third, 21 years between third and fourth), we find that the curves joining the four coördinate points in each respect approximate surprisingly closely to straight lines. Reducing these curves on my graph to actual straight lines, and projecting these to the axis of the year 2000, gives us the following figures: total of forms (species and subspecies) 2050; full species 890; subspecies 1160; fossil forms 290. Note that in the modern list of 69 years hence subspecies will preponderate over species!

At this point I must refer to the element of error in the figures here given. Counting of names is subject to error, maybe of several units. The determination of forms as between species and subspecies is a matter of some uncertainty, even taking the names exactly as we find them in each of the four editions. And admittedly I have handled the mathematics in the case grossly. For example, one of the curves, that for full species, shows marked tendency to flatten out; that is, there is prospect of the number of species in course of time becoming constant.

But even with all these errors ironed out, are we justified in relying upon cold mathematics for prophesying future trends on the basis of tendencies during the 45 years past? What are the factors which have operated to determine the make-up of the fourth edition as we find it constituted, and will these same factors remain in operation indefinitely and, especially, will they operate at the same rate as they appear to have operated heretofore?

First as regards fossil species: Considering the fragility of birds' bones, and the relative rarity of the occurrence of the combination of conditions favorable to their entombment, are we likely to discover any more such productive deposits as the Pleistocene asphalt?



Will there be any great acceleration in geological exploration in North America over the relatively great activity of the past 20 years? Or, on the other hand, will periods of economic depression cause a slump in costly excavation, such as we have witnessed in a certain direction already this present year? Is there likely to be as great return in number of new species from the close study of the small passerine bones as from the large and heavy bones of accipitriids, meleagrids and the like, that have already received attention? And what about the number and relative acumen of future students in avian paleontology: will they be more numerous and more alert than heretofore or will the attractions in this field wane in the face of the ascending allurements for bright minds of bio-physics, bio-chemistry and cosmic mathematics? These questions are more or less baffling of answer. Will the arithmetic prophesy of 290 fossil birds for the tenth Check-List, of the year 2000, be exactly realized upon, or will the number be decidedly fewer, or far more?

Then with regard to full species: It *does* look as though very close to finality had been reached through discovery of living endemic kinds. I think of just one of this category in the last 15 years—the Cape Sable Seaside Sparrow. But as to further additions to the category of naturally occurring strays or casuals from extralimital territory, perusal of the fourth edition shows no prospect of any final ending short of most if not all the species of northeastern Asia via Bering Sea island records, of northwestern Europe via Greenland records, and of Mexico via records from Lower California and the southern tier of our southwestern States. Will exploration and collecting on our frontiers become more or less intensive? Will there not be more, and more sharp-eyed, resident observers? *Quien sabe!*

According to the criterion still held to in the fourth edition, even one occurrence through natural means, of normally non-native species warrants inclusion in the regular list. The question may be raised, will this criterion persist through future editions? Or will it be decided to include only established species, those that are represented by a population regularly present one time of the year or another if not permanently resident? Here is a factor involving human opinion; and of all things, the human point of view is possibly most vacillating!

Another feature of our full-species list, one newly appearing in the fourth edition, is the inclusion of non-native introductions, when thoroughly established as to breeding independently of human care. Thus ten such species newly appear in regular status in the 1931 Check-List—breeders planted by man from the Old World. What will be the limit, if any, reached as a result of the present State Fish and Game furor to bring in and plant foreign game species? What will be the results of the activities of the wealthy and politically influential "More Game Birds in America, Incorporated"? Will our tenth edition contain the Bamboo Partridge, the Chukar Partridge, the Lady Amherst Pheasant, and Tinamous of three species, kinds all ready for liberation from the State Game Farm in California?

On the other hand, may there not develop a healthier ideal, of America for native American game, with concurrent establishment of embargos against all alien species, so that additions to our Check-List from introductions will cease altogether? Who can now say as to the future course of any feature of human behavior?

Another angle as to full species: If it should happen that a future Committee on Nomenclature and Check-List decide not to enter in the main list species of merely casual occurrence (natural stragglers) as well as species liberated but not yet established, then consistency would seem to demand that native species now extinct like the Great Auk and Labrador Duck be expunged from the list—to be put in a separate list, or possibly put into the fossil list! Thus, again, changing opinion may serve to perturb mathematical prediction.

And finally we come to consider subspecies—609 of this category in the fourth edition, and a theoretical prospect of 1160 in the year 2000, when there will be many more subspecies than full species if the present rate of their increase continue and if the present criteria for subspecific recognition hold. Will further exploration and collecting bring to light additional subspecies, as fast as those pursuits have in the past 45 years? I think not, after looking over the map of North America in the light of faunal surveys already reported upon. But another, compensating factor may come in conspicuously (indeed it has already shown its progressive trend). I refer to the practice known vulgarly as splitting, with more defer-

ence, as refinement in standards of subspecific naming. To what now almost inconceivable extent may this tendency go? May there not be in the tenth Check-List, of the year 2000, double 1160—for example, 52 named races of Song Sparrows where there are only 26 in our present, fourth edition! Seriously, I can conceive of just such an eventuality. Vigorous interest in the processes of phylogeny, of species making, is bound to grow; and the species-factory in nature is the only resort in final analysis, to my mind, for learning the true nature of the speciation process. More, and more alert, students in the field of systematics will develop a facility and technique of discrimination scarcely to be dreamed of now. Our arithmetically based prophesy may be far and away too low!

On the contrary, again, we must take account of unstable human judgement. A wave, possibly a permanent wave, of conservatism may strongly set in, away from at least nomenclatural recognition of small-species, of sub-subspecies—so that wholesale “lumping” will result and the total number of forms recognized by name will be much less than the number on the basis of my graph expectable.

Can we, then, say with confidence what the future will show as to the constitution even, say, of the fifth edition of the ‘A. O. U. Check-List,’ only ten years or so hence. Hardly; but won’t the observing bird student find intense interest in watching developments and especially in contributing to their unfolding! And also, right now, “there’s a world of good reading in the Check-List.”

*Museum of Vertebrate Zoology, University of California.*

THE STATUS OF THE DOWITCHERS WITH A DESCRIPTION OF A NEW SUBSPECIES FROM ALBERTA AND MANITOBA.

BY WILLIAM ROWAN.

*Plates II and III.*

*Introduction.*

THE status of the dowitchers occurring across the length and breadth of the North American continent has been a matter of dispute practically since the time that the long-billed bird, *Limnodromus scolopaceus*, was first described by Say in 1823 under the name of *Limosa scolopacea*. Various authors have endeavored from time to time to settle the matter by special investigation. In spite of these attempts, current literature is still full of doubts as to whether there is only one very variable dowitcher, whether there are two subspecies or whether there are actually two full species.

It is the purpose of this paper to re-examine the entire question in light of the recent discovery of two fresh breeding grounds, from both of which skins are available, in Alberta and Manitoba: to describe and name a new subspecies (*hendersoni*): and to substantiate the validity of both the previously recognized forms, *griseus* and *scolopaceus*.

The importance of breeding skins to an investigation of this sort requires no emphasis. Three breeding areas are now certainly known. The first to be discovered, within the Arctic Circle, from the Anderson River westward, has been recognized since MacFarlane (MacFarlane, 1908; Poynting, 1895-6) first collected birds and eggs in 1864. Since then various collectors have obtained eggs, downy young and adult skins from this general region. Without exception, as far as I am aware, these have all been identified as *scolopaceus* by the collectors themselves and by others who have examined them. Some of these skins are included in the present investigation.

The second breeding area was finally established in 1925 when, on

June 2, Mr. A. D. Henderson collected a set of three eggs and kindly got me two adult birds from near Fort Assiniboine, Alberta.

The previous June, Henderson had encountered two dowitchers with downy young on the same grounds. I had simultaneously collected a male some fifty miles further south and east, microscopic sections of whose testes proved him to be in full breeding condition. Time limits precluded a further hunt and neither eggs nor more birds were discovered. On July 4, the same year (1924), Mrs. W. Cassells and Mr. Charles Snell, at Sylvan Lake, Alta., had a dowitcher under observation that behaved exactly like a Killdeer with young. They were, however, unsuccessful in finding chicks. Prior to this, eggs had been taken by Walter Raine in "the muskegs in northern Alberta" on June 3, 1906 and the bird identified by him as *griseus* (Macoun, 1909). This record seems to have been accepted by very few ornithologists, but in light of present knowledge it must be considered authentic. Since Henderson's discovery in 1925, more eggs have been taken. Harlow and I found a set each on Henderson's grounds in 1926 (Rowan, 1927) while that indefatigable collector, T. E. Randall, has taken several sets in the Rochester, Alta., district, including a set of five eggs (Randall, 1930). Since 1924 we have collected some thirty birds from the heart of this breeding territory. For dowitchers they present remarkable uniformity, but are neither *griseus* nor *scolopaceus*. They form the basis of the new race (*hendersoni*) described below.

The third breeding ground was discovered by P. A. Taverner at Churchill, on the west shores of Hudson Bay in Manitoba, in June, 1930. Field evidence of breeding is substantiated by a young bird still partially in down. This, and the series of seven adults collected at the same time, have been generously loaned me by Mr. Taverner for the purpose of the present undertaking. This invaluable material representing, as it does, the first known breeding specimens ever procured from the eastern half of the continent, has provided something of a surprise, for the skins are identical with the Alberta ones.

In addition to my indebtedness to Messrs. Henderson and Taverner in the matter of breeding skins, I should like to express my thanks to the U. S. Biological Survey, Messrs. P. A. Taverner,

A. C. Bent, H. B. Conover, J. H. Fleming, Dr. L. B. Bishop, and Major Allan Brooks for the loan of skins from their collections specially picked for one reason or another for examination in Edmonton and comparison with my own series. Many of these skins are in my possession at the moment and, together with my own, figure in the accompanying tables.

Thanks to the courtesy of Dr. Frank M. Chapman and Messrs. Outram Bangs and P. A. Taverner, I was further able to examine the collections in the American Museum, New York, and the Museum of Comparative Zoölogy, Cambridge and the National Museum, Ottawa respectively, in May, 1928. Mr. J. H. Fleming also kindly invited me to examine the dowitchers in his private collection at Toronto. These proved of particular interest.

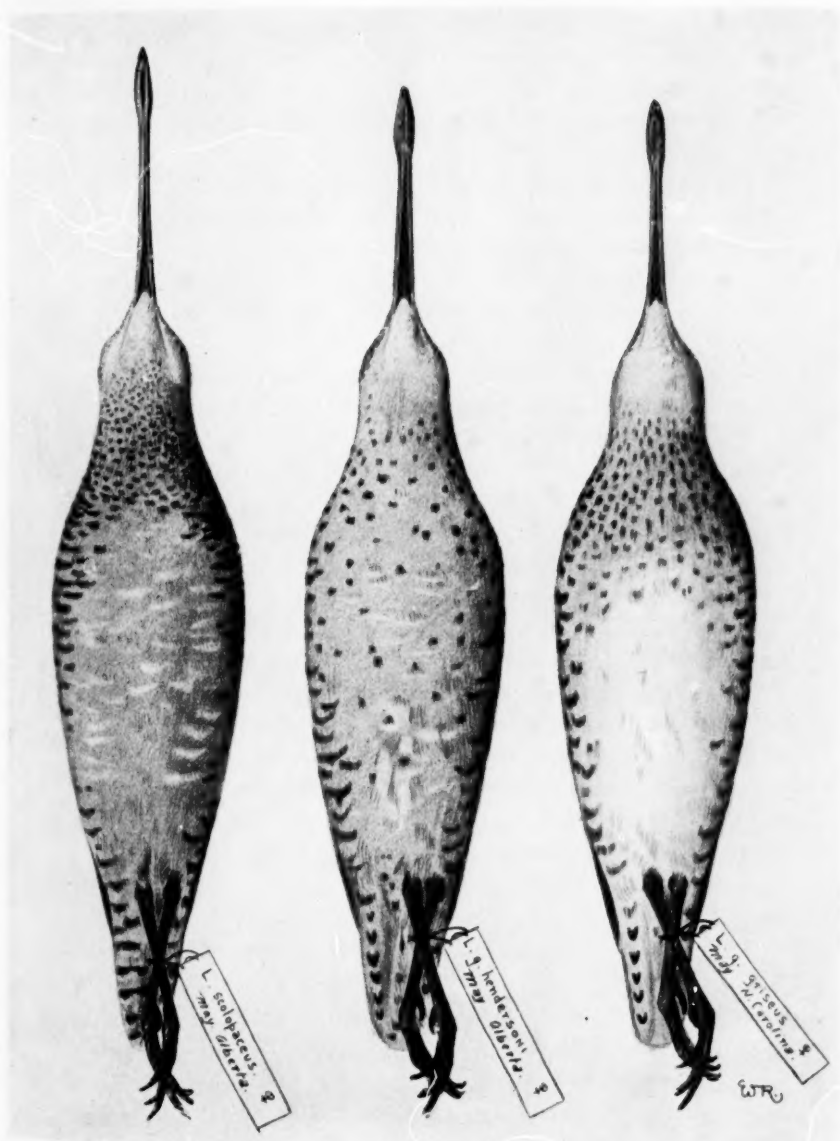
#### *Historical.*

Before describing the series of dowitcher skins to be discussed below, a brief review of the pertinent literature seems *a propos*.

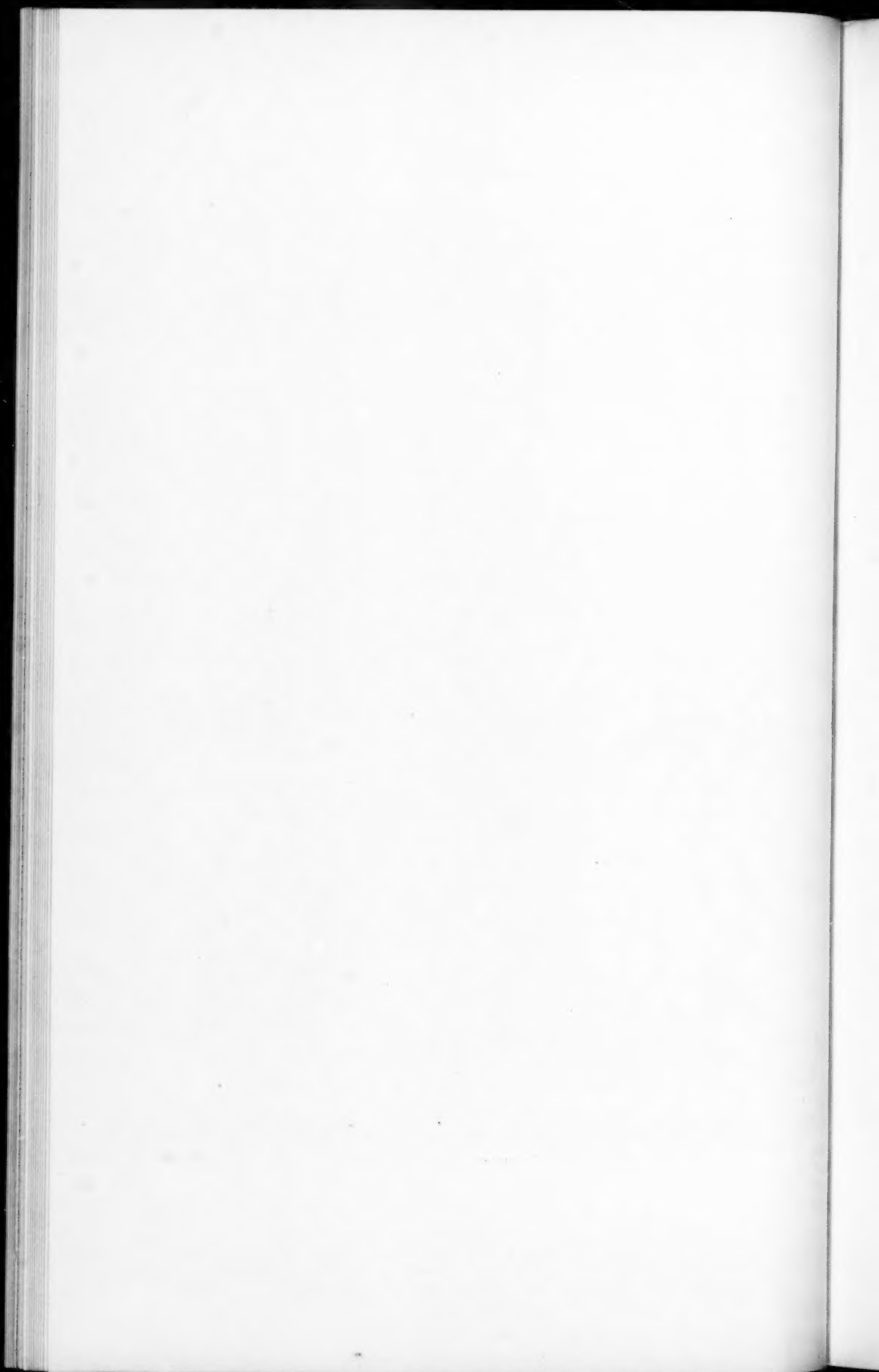
Ridgway (1880) made the first comprehensive attempt to determine the correct status of the two forms. His material consisted of a series of 75 specimens in the National Museum, mostly from western localities, and skins from the Atlantic coast borrowed from G. N. and N. T. Lawrence. In his summary he makes this comment—" (3) That size and proportionate length of bill, legs, etc. is much more variable in both forms than is the coloration, *scolopaceus* averaging decidedly larger, however, than *griseus*." His conclusion was that the two races were quite certainly separable but adds "I cannot regard the two forms as specifically distinct, since intermediate specimens do undoubtedly occur, although they are exceedingly rare." He makes no comment on sexual differences and disregards them entirely in his tabulations. No supposed intergrades are described.

Nelson (1887) has the following to say (p. 101)—"Having occasion in the preparation of this article to compare my Alaska series with the specimens from various parts of the country in the National Museum collection, I find there is not the slightest difficulty in distinguishing the two birds except in very rare instances." He then proceeds to describe the differences. One item is particularly worth quoting—"The dorsal colors of breeding *griseus* average





FEMALE DOWITCHERS, ALL IN NEW FULL PLUMAGE; VENTRAL ASPECT. LEFT, *L. scolopaceus*; CENTRE, *L. g. hendersoni*, SUBSP. NOV.; RIGHT, *L. g. griseus*.  
45/100 ACTUAL SIZE. DRAWN BY WM. ROWAN.





darker than in *scolopaceus*, and the light edgings of the feathers are less distinctly marked." He concludes his account thus—"The deep color of lower surface and restricted amount of maculations form the main characters of this bird (*scolopaceus*) as distinguished from *griseus* and not the comparative length of the beak, which was formerly erroneously supposed to be the main difference, but which in fact is only of very slight if of any value in separating the birds." He totally disregards *sexual* differences in bill-length and describes no intermediates.

These two accounts both agree on one salient point—it is perfectly easy, by color alone, to recognize and separate two races. Both verdicts are quite decisive, yet doubt continued to exist and some years later Howe (1901) undertook a fresh inquiry.

His conclusion is in full agreement with the above, but he had discovered the sexual differences and was so profoundly impressed with them that he states—"I have examined over 250 specimens of the genus *Macrorhamphus* with the result that I find that *adults* of the two species, in summer or winter plumage, are to be determined almost invariably by the criterion of *bill* measurement *alone*, and if in breeding plumage to be even more easily separated." Neither Ridgway nor Nelson appears to have detected the very important fact of sexual difference and to this must be attributed their skepticism about the diagnostic value of bill measurements.

Even among recent authors sexual differences are not always recognized but without such recognition no diagnosis of any value can be arrived at. Separation of the sexes is fundamental. Thus Forbush (1925) states ". . . the Long-billed Dowitcher seems to be identical with it [*griseus*] except in size." "Identical except in size" is a perfectly correct description of males *versus* females of any of the forms of dowitcher but is absolutely wrong in reference to race *versus* race.

#### *Field Aspects.*

Few observers have been privileged to see two races of dowitcher side by side in life. The fact that in these circumstances they are readily distinguishable was first pointed out by N. T. Lawrence (1880) with special reference to *griseus* and *scolopaceus* on the eastern seaboard. In Alberta various ornithologists, visiting and resident, have seen *scolopaceus* and *hendersoni* together. The

differences between them are so striking that at least on two occasions it has been necessary to collect *hendersoni* to demonstrate that it was actually a dowitcher. The long-billed bird is dark on the back (though as pointed out by various authors, not as dark as *griseus*): the inland, in contrast, is nearly as pale as a spring knot.

It would seem reasonable to expect the verdict of competent field observers to prove acceptable to students of cabinet specimens in which the arrangement of the feathers can never be as perfect as in the living bird, yet this unfortunately is seldom the case. A quite startling appearance in the flesh may be obscured or even completely lost in the made-up skin.

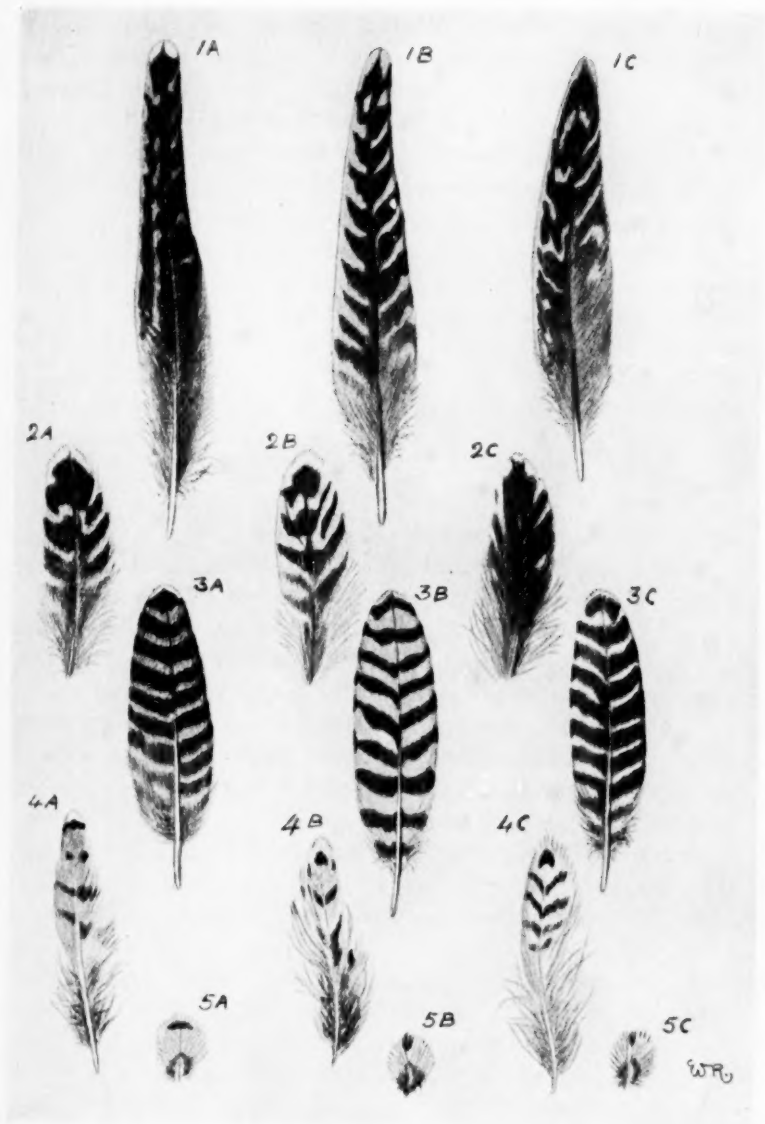
#### *Plumages.*

There is yet another difficulty in assessing the dowitchers. They have numerous plumages and protracted molts. A spring bird half in winter and half in summer plumage is a curious mixture and requires very careful examination before its real characters can be deciphered. It may easily be laid aside as "intermediate" even by an experienced student. One such skin is particularly referred to below. The fact that the middle rectrices differ from the remainder and are molted by themselves is apparently unknown to most ornithologists. They are wanting in many spring-taken specimens and as they only, of the rectrices, show racial differences, the knowledge that they may be missing is obviously of primary importance.

Even Ridgway (1919) in his monumental work 'The Birds of Middle and North America' makes no reference at all, either under *griseus* or *scolopaceus*, to the first winter plumage of young birds, yet they possess distinct juvenal and first winter plumages. The latter makes its appearance in quite early fall skins. It is essential that all the plumages should be recognized and their possible combinations taken into consideration for conclusive determination. Bent (1927) gives an excellent account of plumage changes, as does also Witherby (1920).

#### *Distribution.*

Perhaps the richest source of confusion has been the lack of information as to breeding grounds. Two more breeding areas



TYPICAL DOWITCHER FEATHERS. SERIES A, *L. scolopaceus*; B, *L. g. hendersoni*; C, *L. g. griseus*. 1. TERTIAL: 2. SCAPULAR: 3. CENTRAL RECTRIX: 4. UNDER-TAIL COVERT: 5. BREAST FEATHER. 7/10 ACTUAL SIZE.  
DRAWN BY WM. ROWAN.



are now known and the skins secured from them have thrown a flood of light on the entire dowitcher problem. There seems little question that the bird (*hendersoni*) from these areas has provided the main stumbling block to a solution. Its occurrence during migration in the interior and on both coasts (though more rarely on the Atlantic) in company of *griseus* and *scolopaceus* probably accounts for many supposed intermediates. Its comparatively short bill and the presence, in some specimens, of white on the belly, appear to account for its identification as *griseus*, while its more normal uniform coloration has led to its being taken for short-billed *scolopaceus*. Several skins from the interior and the west coast that have figured in literature as *griseus* (Horsbrugh, 1918: Taverner, 1919: Bent, 1927) have been examined and have proved indubitably to be *hendersoni*.

*Summary.*

Confusion of the various races of dowitcher seems to rest on several factors. They may be enumerated as follows,—

Ignorance or disregard of the sexual differences in bill-length in all races. These are particularly striking in *scolopaceus*.

Lack of acquaintance with more than one race in life.

Incomplete knowledge of the plumage sequences or disregard of the mixed plumages so frequent in the early spring and fall.

Lack of specimens from breeding localities. Hitherto only breeding skins from Alaska have been available. They are all typical *scolopaceus*. A large race with small bill is now known to breed in the interior of Canada. It has not been previously recognized and its wide distribution, together with the above factors, has led to the belief that *griseus*, actually confined to the east coast, occurs right across the continent.

As far as the present writer is concerned, he fell foul of all these obstacles simultaneously on his first acquaintance with the dowitcher. I met and collected my first birds on ground common to two races, a fact unknown to me at the time. I was unaware of the sexual differences in the species nor did I appreciate its multiplicity of plumages. I decided that there was but one bird and that it was extremely variable. My hasty verdict has appeared, as a quotation from a letter (undated in the quotation, but actually

several years old) in Bent's 'Life Histories' (1927). Long before the book matured, however, I had arrived at a correct interpretation of the facts and elsewhere in the same volume (p. 107) I am accredited with my later, diametrically opposite, views, the ones that I am herewith reiterating and amplifying. This view has been consistently strengthened as more information has been gleaned and scores of additional skins have been handled.

### *Material*

In all, nearly 500 dowitcher skins have been examined. At the time of writing over 100 representative specimens from a variety of sources and localities are available. Specific details of these, as well as of some of the other skins that have previously passed through my hands and on which full notes have been made and preserved, will be found on the accompanying tables (A-F).<sup>1</sup> They fall naturally into three groups which will be referred to below as (1) Long-billed, *L. scolopaceus*; (2) Inland, *L. g. hendersoni*; (3) Eastern, *L. g. griseus*.

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<sup>1</sup> Variations in length of bill, wing and tarsus have been indicated on the tables. Variations in plumage have been referred to periodically in the text. It should, however, be pointed out that variations are of different kinds and of varying values. The blue back of the adult male merlin, for instance, varies in tone, both in *richardsoni* and *columbarius* (as well as in other merlins) the darkest of the former being as deep as the palest of the latter. This is always considered to demonstrate intergradation and sub-specific relationship. But the blue of other male hawks varies and it may, in fact, be considered an inherently variable character in male hawks that have blue backs. If *richardsoni* and *columbarius* were entirely unrelated each would still retain its range of blues but suspicions of intergrading would not exist. As a matter of fact, there is little question that this is the correct interpretation to apply to the merlins since the blue of *richardsoni* is a different blue from that of *columbarius*. Extremes may match each other, but only in *depth of tone*. This, so it seems to me, is the view that should be applied to many dowitcher variations, e.g. bill-length. The bill of each race varies about a given mean (as do other wader bills). Where there is a great discrepancy in mean, as between *scolopaceus* and *griseus*, there is no overlapping whatever (when considered sex by sex). Or again, the narrowest of the white tail-bars of *hendersoni* may match the widest in *griseus* or *scolopaceus* but the fact is by no means necessarily indicative of intergrading. A given specimen may show extreme variation in one character and yet remain quite obviously typical *hendersoni*. A Solitary Sandpiper showing particularly narrow bars on its rectrices does not thereby become an intergrade with the dowitchers. The mean widths of bar on the tail feathers in *griseus* and *hendersoni* are absolutely distinct and cannot be confused. Each shows a range of variation quite usual in barred tail feathers of shore birds. That the extremes overlap is an accident, not an indication of subspecific relationship.



(1) **Long-billed Dowitcher**, *Limnodromus scolopaceus* (Say.) (Pl. II).

This group comprises 33 adult skins in breeding, or mainly breeding, plumage from various parts of the continent, including June skins from Alaska (collected at the nest) with a large majority from Alberta: three adults in winter plumage and six birds of the year, all from Alberta.

The outstanding characteristic is the relatively enormous bill. For females the average length is 7.26 cm.: for males, 6.22 cm. The *shortest* female *scolopaceus* bill (6.8 cm.) exceeds by .2 cm. the *longest* female bill of the other two groups. In full-grown females, therefore, a bill of 6.8 cm. or over may possibly constitute a self-sufficient diagnostic character, distinctive of females of the long-billed group. Of the males, one only has a bill of less than 6 cm. while of the remaining males in the other two groups (52 skins) only one exceeds 6 cm. The bill comes very close to being a good criterion in this sex also, but not quite. As a standard by itself, applied to any series of dowitcher skins, the expected error would probably not exceed 5%. The contrast in size of bill between the two sexes is far more marked in *scolopaceus* than in either of the races of *griseus*.

The Long-billed group is further distinguished by the following characters. The breast and belly are more or less uniform salmon with many of the feathers tipped in spring with whitish (Pl. II). The tips get largely, if not entirely, worn as the season progresses, giving August birds a somewhat richer color. Spotting is confined to the throat region where it is, however, relatively heavy. The spots tend to be broader than they are long (Pl. III, fig. 5a). They overflow to the sides of the breast where they enlarge greatly to form distinct bars. In August skins, the spotting is reduced, probably by both abrasion and molt. The lateral bars also suffer reduction, but some persist. In summer plumage the black feathers of the back are crossed with narrow bars of a deep, rich buff, partially edged with the same and tipped with white. The general impression in life is that of a distinctly dark bird. In this respect there is but little difference between the spring and the August skin although in the latter the white tips are mostly gone and the back averages darker on the whole. The tertials are black with narrow, irregular bars and markings of deep buff though the

depth of color varies greatly and in extreme cases is almost white. However, the typical thing is a narrow streak of rather dark color (Pl. III, fig. 1a). The under tail coverts vary from buff to whitish but are almost invariably barred with black terminally rather than spotted (Pl. III, fig. 4a). The central rectrices are mainly black with narrow bars of deep buff (Pl. III, fig. 3a).

There is no striking difference in wing-length between females (nor males) of this group and the other two, but in view of their enormous bills it comes as a distinct surprise to find that their wing-lengths are somewhat exceeded by the small-billed inland birds (see tables). The tarsus of Long-billed females on the average well exceeds that of the remaining females but in the males the difference is slighter.

(2) **Inland Dowitcher**, *L. griseus hendersoni*, subsp. nov. (Pl. II).

This group is represented by a very different bird. To fully appreciate the difference the two forms should be seen together in life in the same flock. In summer plumage the veriest tyro can distinguish them almost as far away as they can be seen.

The series comprises some 40 skins from California, British Columbia, Alberta, Saskatchewan, Manitoba, Ontario (Toronto), and South Carolina, but the majority are breeding skins from Alberta and Fort Churchill, Manitoba.

The outstanding features of the Inland group are the following. The bills are conspicuously shorter than in the Long-billed class, while the actual difference between the two sexes is greatly reduced. The average length of bill for the females (18 specimens) is 6.16 cm. as against 5.69 cm. of the males (34 skins). The former is but little below the average of Long-billed *males*.

In wing-length this group exceeds even the Long-bills.

The spotting is generally comparatively scanty and not concentrated on the throat (Plate II). There is in some skins a suggestion of a band of spotting along the extreme anterior limits of the breast, but the spots average larger than those on the throat of the Long-bills (Pl. III, 5b) and are always more scattered. In the best marked skins spotting is sparsely distributed all over the breast and belly. The breast shows no barring on the sides although bars occur sparingly farther back.

The general color on the under side is nearly as deep as in the Long-bills but has a yellowish tinge. In a specimen freshly out of its winter plumage these breast feathers are more generously tipped with whitish than in the case of the Long-bills and there is in some skins (either sex) an admixture of white feathers on the belly. In the majority they are wanting and their presence might conceivably indicate a bird of the previous year (said to be the case with *scolopaceus*) though this is probably unlikely, a fully white belly being typical of *L. g. griseus*. White feathers occur on some birds that have undoubtedly bred. Thus one female, with about the maximum amount of white on the belly had a shelled egg in the oviduct when collected.

The feathers of the back offer an even greater contrast to the first group. In life, when side by side with Long-bills, the Inland birds look so pale as to suggest an entirely different species. Both the barring and the edging of the feathers are wider, as well as paler, than in the first group (Pl. III, fig. 2b). The bars on the tertials are similarly wider and paler (Pl. III, fig. 1b). The two central rectrices are black but are crossed by considerably wider bands of buffish than in the long-bills. The color of these bars is never deep and may, in fact, be white (Pl. III, fig. 3b). The under-tail coverts may be mixed white and buffish, but they are never as richly colored as those of the long-bills and tend to be terminally spotted with black rather than barred (Pl. III, fig. 4b). The upper tail-coverts are whiter than those of group (1) with the terminal bar of blackish replaced by a circular spot.

One August skin has been examined. It shows the dark, worn condition of *scolopaceus* in comparable plumage, but there is *no barring on the sides of the breast*. The rectrices, moreover, and its measurements, are typical of *hendersoni*.

(3) **Eastern Dowitcher**, *L. griseus griseus* (Gmel.) (Pl. II).

This group is represented by a series of 33 skins from Florida, Virginia, Georgia, Massachusetts, North and South Carolina, New Brunswick, Nova Scotia and Ontario (Toronto). All available skins from the interior and the Pacific coast have been indisputably of the Inland group. One solitary skin suggested doubt when first handled (coll. H. B. Bishop, No. 33372, male, Los Angeles County,

Calif., Apr. 9, 1923), the suggestion of the present group being due to the preponderance of winter feathers on the throat and breast with their delicate grey streaking. On examining the back, the broad, pale bars and margins of the incoming tertials and dorsal feathers generally confirmed its inland status, as did also its measurements.

The chief characteristics of the eastern group are the following. The bill in both sexes averages shorter than in the corresponding sexes of either groups 1 or 2. Averages—female (15 skins) 5.79 cm., male (18 skins) 5.44 cm., the former (female) being somewhat above the average of the *males* of the inland group. In tarsus measurements these birds average below either of the other groups, while the same is probably correct for the wing-lengths (see note, table G). They constitute, in fact, the smallest of the dowitchers.

But the most striking difference between this group and the others is the coloring. On the ventral surface (Pl. II) the reddish is virtually confined to the throat and breast, the belly being white save for a few odd buffy feathers on a single skin. Such coloring as there is, is paler than in the other groups. The spots are more or less crowded on the lower throat and breast and tend to be longer than they are wide (Pl. III, fig. 5c) except on the sides where they widen out on all skins and resemble the bars of the long-bills on a lesser scale.

The throat and breast region of some of these birds so closely resembles the appearance of the same areas on any typical spring sanderling skin that when a sheet of paper with a circular opening is laid on a specimen of each so as to cover everything but this zone it is quite impossible to guess which skin is which. There is not even a remote suggestion of similarity to a sanderling in either of the other groups.

Seen from the dorsal surface they average darker than even the Long-bills. Their black appearance is commented on by both Nelson (quoted above) and Howe (1901). This holds good even in fresh spring skins in which some of the tertials are so sparsely barred as to appear almost completely black. One exceptional skin (coll. L. B. Bishop, No. 7186, male, Pea Is., N. Carolina, May 7, 1902), is as brightly colored as any inland specimen, but its ventral surface is unmistakably eastern, while all its measurements

are small, even for an eastern. It is in new plumage and seems to be a good intermediate between *griseus* and *hendersoni*.

The central rectrices are narrowly barred with white (some tinged with buffish) and on the whole are much blacker than those of the Inland group (Pl. III, figs. 3b and 3c). The under-tail coverts are white (with occasional buffish tinge) and have a terminal spot in place of the bar of the Longbills (Pl. III, fig. 4c). The upper tail coverts resemble those of the inland group.

#### *Juveniles.*

No juvenile eastern skins are available in our present series, but I have notes on three skins from Nova Scotia loaned me by Mr. Taverner three years ago. They tally with Witherby's (1920) account of the juvenile plumage in *griseus*. Without skins at hand it is impossible to make a precise comparison with our five inland juvenile specimens, but there is no noticeable difference between these skins and the written accounts. The agreement must be quite close. There are, however, three well marked differences between them and the juveniles of the Long-bills. The bill (by sexes) is much shorter in *hendersoni*: the buff edgings of the feathers on the back are broader and paler than in *scolopaceus*, but the crown is darker: the throat and breast are finely speckled in *hendersoni* rather than streaked. One of these skins is Taverner's Churchill specimen. Ours agree with it in all respects except that they lack the down on the head and the bills have attained their full lengths.

#### *Distribution.*

*L. scolopaceus*. Known to breed from the Anderson River (where it is scarce) westward to Point Barrow and south to the mouth of the Yukon River and Hooper Bay. Most abundant on migration in the interior (in Canada, at all events) and on the west coast,—British Columbia, Washington and California (Dawson, 1923, p. 1227). Comparatively infrequent on the Atlantic coast. Preble (1902) records it as abundant near Fort Churchill, Manitoba, on July 31. Collected specimens were identified by Howe as *scolopaceus*. If the identification is correct it distinctly suggests that the known breeding range may ultimately be extended considerably further east. Howe's measurements, however, lead one

to suspect that these were actually *hendersoni*, probably taken for *scolopaceus* on the strength of their ventral coloring. *Hendersoni* only were seen or obtained by Taverner at Ft. Churchill in July and August, 1930.

*L. g. hendersoni*. Known to breed in central and northern Alberta from Lake Athabasca south, casually probably to about latitude 53, and at Fort Churchill, Manitoba. Spring taken skins from the intervening territory of Saskatchewan suggest that it will probably, sooner or later, be shown to breed in the northern half of that Province. Specimens on migration have been identified from British Columbia, California, all the prairie provinces of Canada, Ontario, and South Carolina. Preble (1908) records a specimen of *griseus* from Fort Rae on Great Slave Lake. If this is actually *hendersoni*, the record would extend its known range northward by some 250 miles. Arnold (1927) has a colored plate (Pl. XXXII) of a dowitcher from the British Museum collection, taken in England, that shows the pale back, the sparse but scattered spotting on breast and belly, and the uniform ventral coloring so unmistakably, that there seems no doubt that *hendersoni* has occurred at least once in the British Isles.

*L. g. griseus*. Breeding grounds unknown. As far as the present investigation is concerned, with the exception of one skin from Toronto, all others have come from the Atlantic seaboard. Such supposed *griseus* skins as have been available from the interior and from the west coast (some of which have been recorded by other authors as *griseus*) have all proved to be *hendersoni*. The inference is that the breeding grounds of *griseus* must lie east of Hudson Bay, possibly in the almost unknown interior of Ungava or perhaps even Labrador.

#### *Conclusions.*

In spite of the unanimous opinion of those most fitted to speak—the various authors who have made a special study of the dowitchers—that *scolopaceus* is perfectly distinctive and recognizable either by its coloration or its bill or both, there is yet a marked tendency in current literature to doubt its validity. When accepted it is invariably ranked as a subspecies of *L. griseus* on the supposed existence of intermediates that have, as far as I am aware, never



been described. Both Ridgway and Nelson state that they are rare but give no account of them, nor do they state in what respects they are intermediate. Neither of these authors was apparently cognizant of the sexual differences in bill-length and they might well have considered a large-billed male *scolopaceus* to be intermediate between the yet larger billed females of the same race and females of *griseus*. An odd skin of *hendersoni* might equally be considered intermediate on the strength of its ventral coloration, particularly if compared with an August skin of *scolopaceus*, in which the characteristic throat spotting is greatly reduced. Among the hundreds of skins examined in the last few years I have not encountered a single one that suggests intergradation between this group and the other two. Moreover, its far-northern breeding ground appears to be quite isolated. Certainly, although it has now been well known for over half a century, only typical *scolopaceus* are known from it. (Howe's distributional map seems to be based mainly on guess work. At all events it has been proved entirely incorrect by events of the last few years.) Probably most significant of all is the fact that the young can be distinguished from those of *griseus* and *hendersoni*, while young of the last two cannot be told from each other. In short, in keeping with current practice, *scolopaceus* should be accorded the rank of a full species rather than a subspecies.

Enough has already been said to demonstrate the existence of two other easily separable groups of dowitchers. The one—my group 2, *hendersoni*, a large-winged, short-billed and pale-backed inland race—has now been tied down to two breeding grounds, in Alberta and Manitoba, a thousand miles apart, with similar spring skins known from the intervening territory. It evidently has a huge breeding range and is quite stable. Outside the breeding season it also has a wide distribution, occurring freely on the Pacific and more rarely on the Atlantic coast.

While the nesting grounds of the two above forms are known in part, at least, the breeding territory of the last group, the Eastern, *griseus*, is still unknown. The birds, however, constitute a group as well defined as the Long-billed or the Inland respectively and they no doubt represent the original *griseus*, the type of which came from the coast of New York. It is certainly the *griseus* of Howe "upper

parts black" etc. (1901 p. 159), of Nelson—"the dorsal colors average darker than in *scolopaceus*" etc. (1887, p. 101), and later authors. Its ascertained distribution is virtually restricted to the Atlantic seaboard.

It has been shown above that *scolopaceus* is not only infallibly recognizable as an adult but also as a juvenile. The young of *griseus* and *hendersoni*, on the other hand, appear to be indistinguishable while intermediate adult skins undoubtedly exist. One such has here been described in some detail (*vide supra*). It is *hendersoni* from above (entirely unlike *griseus*) but it is *griseus* from below.

It is therefore, obvious that the inland bird must be named and that it should rightly be considered a subspecies of *griseus*. Its recognition clears up the entire Dowitcher puzzle. It is far more distinctive than scores of accepted subspecies and, in summer plumage, is readily identified in life, either by itself, or, even better, when in company of other Dowitchers. In spite of its enormous breeding range it maintains marked uniformity from end to end. I fail to see the force of such arguments as that of Bent's (1927, p. 107) when he says, in reference to my views on these Inland Dowitchers—"It seems to me that they are strictly intermediate and should not be named." Strictly intermediate they certainly are not, but even if they were, logical pursuit of the argument would entail the elimination of scores of accepted subspecies. Some two dozen races of Song Sparrow, for instance, would have to be revoked since they are intermediate between say, the Desert and Aleutian, or the Desert and Sooty Song Sparrows.

I have named the new dowitcher *L. g. hendersoni* after Mr. A. D. Henderson of Belvedere, Alberta, discoverer of the Alberta breeding grounds, who took endless trouble to procure me the first certain breeding skins obtained and to whose own activities and ever ready hospitality to visiting ornithologists western Canada owes so much of its recent advances in ornithological knowledge.

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TABLE A.

Measurements (centimeters) of MALES of *L. scolopaceus*,  
Long-billed Dowitcher.

Wing	Cul- men	Tar- sus	Locality, date and origin of skin
14.2	6.1	3.85	Hooper Bay, Alaska. <i>Conover</i> , 3694, 9 June 1924
14.5	6.1	3.9	Hamilton, Ont. <i>Fleming</i> , 12 Aug. 1891
13.9	5.8	3.6	Beaverhills Lake, Alta. 18 May 1923
<sup>1</sup> 13.5	6.15	3.6	" " " 20 " 1924
14.2	6.3	3.8	" " " 7 " 1923
13.9	6.15	3.6	" " " 19 " 1924
13.8	6.3	3.8	" " " 20 " 1922
<sup>2</sup> 14.3	6.4	<sup>1</sup> 3.35	" " " 6 Aug. 1925
<sup>2</sup> 13.8	6.0	3.55	" " " 16 " 1924
<sup>2</sup> 13.9	6.55	3.8	" " " 6 " 1925
<sup>2</sup> 13.9	<sup>2</sup> 6.6	3.8	" " " 6 " 1925
<sup>2</sup> 13.6	6.3	3.65	" " " 6 " 1925
<sup>2</sup> 14.1	6.1	3.7	" " " 6 " 1925
14.4	6.0	3.85	Athabasca River, U. S. <i>Surv.</i> 283339, 12 May 1920
<sup>2</sup> 14.6	6.0	3.8	Big Lake, Alta. <i>Prov. coll.</i> , Edmonton, 24 May 1912
14.5	6.25	3.9	Sumas Lake, B. C. <i>Brooks</i> , 23 Sept. 1887
13.7	6.3	3.7	Chilliwack, B. C. <i>Brooks</i> , 8 May 1888
14.5	6.45	<sup>3</sup> 4.0	Yukon Delta. <i>Bent</i> , 26 June, 1914
14.4	<sup>2</sup> 6.6	3.7	Toronto, Ont. <i>Fleming</i> , no date: no sex. Typical late summer plumage: probably 1890.
<i>Juveniles</i>			
14.5	6.25	3.7	Beaverhills Lake, Alta., 2 Sept. 1924
14.5	6.25	3.75	" " " 2 " 1924
14.1	6.2	3.55	" " " 8 Aug. 1925
14.1	6.22	3.72	Averages, 21 skins

<sup>1</sup> Minimum.<sup>2</sup> Somewhat worn. See note, table G.<sup>3</sup> Maximum.

TABLE B.

Measurements (centimeters) of FEMALES of *L. scolopaceus*,  
Long-billed Dowitcher.

Wing	Cul- men	Tar- sus	Locality, date and origin of skin
14.5	7.2	3.85	Hooper Bay, Alaska. <i>Conover</i> , 3693, 9 June 1924
14.6	<sup>1</sup> 6.8	3.9	Chilliwack, B. C. <i>Fleming</i> , 8 May 1888
<sup>1</sup> 14.0	7.05	3.85	Beaverhills Lake, Alta. 14 May 1923
14.9	7.15	4.05	" " " 19 " 1925
14.7	7.4	3.9	" " " 18 " 1923
14.5	7.5	4.3	" " " 13 " 1923
14.2	7.15	<sup>1</sup> 3.8	" " " 19 " 1923
15.1	7.4	4.4	" " " 19 " 1925
14.9	6.95	4.6	" " " 21 " 1925
<sup>2</sup> 14.2	7.45	4.0	" " " 6 Aug. 1925
<sup>2</sup> 14.8	7.4	4.0	" " " 16 " 1924
<sup>2</sup> 14.2	6.95	<sup>2</sup> 4.65	" " " 16 " 1924
<sup>2</sup> 14.3	7.05	4.05	" " " 6 " 1925
<sup>2</sup> 14.3	<sup>3</sup> 7.8	4.05	" " " 6 " 1925
14.8	7.4	4.35	" " " 6 " 1925 <sup>4</sup>
14.3	<sup>1</sup> 6.8	3.85	" " " 6 " 1925 <sup>4</sup>
<sup>2</sup> 15.3	7.6	4.3	" " " 2 Sept. 1924 <sup>5</sup>
<i>Juveniles</i>			
14.8	7.3	4.0	Beaverhills Lake, Alta. 24 Aug. 1925
15.2	<sup>2</sup> 7.8	4.0	" " " 24 " 1925
14.8	7.1	4.15	" " " 2 Sept. 1924
14.63	7.26	4.10	Averages, 20 skins

<sup>1</sup> Minimum.<sup>2</sup> Somewhat worn. See note, table G.<sup>3</sup> Maximum.<sup>4</sup> Partial winter plumage.<sup>5</sup> Full winter plumage.

TABLE C.

Measurements (centimeters) of MALES of *L. g. hendersoni*,  
Inland Dowitcher.

Wing	Cul- men	Tar- sus	Locality, date and origin of skin
14.5	5.95	3.75	Beaverhills Lake, Alta. 16 May, 1927
14.6	5.7	3.4	Crooked Lake, Sask. <i>Fleming</i> , 13 May, 1914
14.3	5.6	3.5	Toronto, Ont. <i>Fleming</i> , 23 May, 1895
15.0	6.1	3.75	Beaverhills Lake, Alta. 19 May 1923
14.6	5.8	3.3	" " " 22 " 1922
14.5	5.95	3.75	" " " 16 " 1927
Type			
14.4	5.85	3.65	Devil's Lake, Alta. 19 June, 1924
14.0	5.65	3.55	Churchill, Man. <i>Nat. Mus. Can.</i> 23974. 20 June 1930
14.8	5.9	3.6	" " " " " 24026. 28 " 1930
14.4	5.45	3.4	" " " " " 24137. 18 July 1930
14.1	5.9	3.5	" " " " " 24150. 20 " 1930
14.7	5.9	3.6	Fawcett, Alta. 28 May 1929
14.2	5.95	3.6	" " 24 " 1929
14.6	5.3	3.5	" " 30 " 1930
14.8	5.7	3.5	" " 27 " 1929
14.7	5.9	3.5	" " 31 " 1930
14.5	5.7	3.6	Klondike City, Alta. 8 June 1926
14.6	5.45	3.4	" " " 4 " 1926
14.5	5.7	3.6	" " " 8 " 1925
14.9	5.65	3.7	" " " 6 " 1925
14.7	5.8	3.6	Beaverhills Lake, Alta. 16 May, 1927
14.5	5.7	3.55	Mt. Pleasant, S. Carolina, <i>Bishop</i> 24016, 3 May 1912
14.2	5.3	3.4	Osoyoos, B. C. <i>Brooks</i> , 7 May 1922
14.9	5.75	3.5	Sydney, Victoria, V. I. 26 July, 1912
14.7	5.7	3.45	Los Angeles Cy, Calif. <i>Bishop</i> 33372. 9 Apr. 1923
14.7	5.6	3.6	" " " " " 33373. 25 Apr. 1923
	5.75		Victoria Is., <i>Nat. Mus. Can.</i> 15 May
	5.6		Shoal Lake, Man. <i>Nat. Mus. Can.</i> May
	5.6		" " " " " " " "
	5.5		Osoyoos Lake, B. C. <i>Nat. Mus. Can.</i> early May
	5.65		" " " " " " " "
	5.7		" " " " " " " "



TABLE C—Continued.

Wing	Culmen	Tarsus	Locality, date and origin of skin
			<i>Juveniles</i>
14.6	5.65	3.6	Beaverhills Lake, Alta. 6 Aug. 1925
14.1	5.85	3.4	" " " 16 " 1924
12.7	5.3	3.4	Churchill, Man. <i>Nat. Mus. Can.</i> 20 July 1930 Part. downy
14.5	5.69	3.51	Averages, 28 skins (culmen, 34 skins)

<sup>1</sup> Minimum.<sup>2</sup> Largely winter plumage.<sup>3</sup> Maximum.

Type skin, donated to the National Museum of Canada.

TABLE D.

Measurements (centimeters) of FEMALES of *L. g. hendersoni*,  
Inland Dowitcher.

Wing	Culmen	Tarsus	Locality, date and origin of skin
14.5	6.5	3.7	Crooked Lake, Sask. <i>Fleming</i> , 13 May 1914
14.9	5.8	<sup>1</sup> 3.4	Toronto, Ont. <i>Fleming</i> , 16 May 1896
<sup>1</sup> 15.2	6.4	3.8	Churchill, Man. <i>Nat. Mus. Can.</i> 23981. 21 June 1930
14.4	5.85	3.5	" " " " " 24028. 28 " 1930
14.8	5.85	3.75	" " " " " 23973. 20 " 1930
14.7	6.25	3.5	Fawcett, Alta. 27 May 1929
<sup>1</sup> 14.3	6.3	3.45	" " 24 " 1929
15.1	6.25	3.9	" " 30 " 1930
14.7	<sup>2</sup> 6.6	<sup>2</sup> 4.0	" " 1 June 1930
	5.8		Osoyoos Lake, B. C. <i>Nat. Mus. Can.</i> , early May
	6.2		" " " " " " " " "
	6.2		" " " " " " " " "
	<sup>1</sup> 5.7		Shoal Lake, Man. " " " late "
	6.1		" " " " " " " "
	6.2		" " " " " " " "
	6.2		" " " " " " " "
	6.5		" " " " " " " "
			<i>Juvenile</i>
14.6	6.3	3.65	Beaverhills Lake, Alta. 24 Aug. 1925
14.7	6.16	3.65	Averages, 10 skins (culmen, 18 skins)

<sup>1</sup> Minimum.<sup>2</sup> Maximum.

TABLE E.  
Measurements (centimeters) of MALES of *L. g. griseus*,  
Eastern Dowitcher.

Wing	Cul- men	Tar- sus	Locality, date and origin of skin.
14.2	5.5	3.15	Virginia, <i>U. S. Biol. Surv.</i> , 239917. May 1913
14.2	<sup>1</sup> 5.7	<sup>1</sup> 3.5	" " " " " 239919. " 1913
<sup>1</sup> 14.7	5.5	3.45	" " " " " 239918. " 1913
13.5	5.4	3.25	Chatham, Mass. <i>Bent</i> 10512. Aug. 1912
13.4	5.55	3.3	Grand Manon, N. B. <i>Nat. Mus. Can.</i> , 12 Aug. 1925
14.3	<sup>1</sup> 5.7	3.4	" " " " " " " 25 " 1925
<sup>2</sup> 13.3	<sup>2</sup> 5.2	3.2	" " " " " " " 5 " 1925
14.6	5.45	3.3	" " " " " " " 12 " 1925
14.2	5.6	3.1	" " " " " " " 5 " 1925
14.0	5.45	3.2	" " " " " " " 5 " 1925
14.6	5.5	3.35	Pea Is., N. C. <i>Bishop</i> 7210. 9 May 1902
14.4	5.3	3.2	" " " " " 7175. 6 " 1902
14.0	5.4	<sup>2</sup> 3.0	" " " " " 7186. 7 " 1902
13.5	5.5	3.1	Magdalen Is. <i>Nat. Mus. Can.</i> 3 Aug. 1909
14.3	5.3	<sup>1</sup> 3.5	Macintosh Bay, Ga., <i>Nat. Mus. Can.</i> 23 Apr. 1890
14.4	5.35	3.2	Cape May, N. J. <i>Nat. Mus. Can.</i> May 1872
			<i>Juveniles</i>
13.7	5.3	3.3	Crescent Beach, N. S., <i>Nat. Mus. Can.</i> 1 Sept. 1923
14.2	5.25	3.3	" " " " " " " 28 Aug. 1924
14.2	5.44	3.26	Averages, 18 skins

<sup>1</sup> Maximum.<sup>2</sup> Minimum.

TABLE F.  
Measurements (centimeters) of FEMALES of *L. g. griseus*,  
Eastern Dowitcher.

Wing	Cul- men	Tar- sus	Locality, date and origin of skin
14.1	5.75	3.2	Nova Scotia. <i>Nat. Mus. Can.</i> 17533. Aug. 1920
14.2	5.5	3.5	Marco, Fla. <i>Fleming</i> . 8 July 1902
14.4	5.6	3.3	Toronto, Ont. <i>Fleming</i> . 22 May 1894
14.1	6.1	3.4	Virginia. <i>U. S. Biol. Surv.</i> 239920. May 1913
14.7	5.6	<sup>1</sup> 3.1	Three Is., Grand Manon, N. B. <i>Nat. Mus. Can.</i> Aug. 1925

TABLE F—*Continued.*

Wing	Culmen	Tarsus	Locality, date and origin of skin
14.0	5.65	3.3	Three Is., Grand Manon, N. B. <i>Nat. Mus. Can.</i> Aug. 1925
<sup>1</sup> 13.4	<sup>1</sup> 5.15	3.3	Three Is., Grand Manon, N. B. <i>Nat. Mus. Can.</i> Aug. 1925
13.9	5.35	3.3	Three Is., Grand Manon, N. B., <i>Nat. Mus. Can.</i> Aug. 1925
13.7	5.8	3.25	Three Is., Grand Manon, N. B. <i>Nat. Mus. Can.</i> Aug. 1925
13.9	5.7	3.35	Crescent Beach, N. S. <i>Nat. Mus. Can.</i> 24 Aug. 1920
14.5	6.2	3.5	Pea Is., N. C. <i>Bishop 5697.</i> 13 May 1901
14.5	5.9	<sup>2</sup> 3.9	" " " " " <i>5764.</i> 18 " 1901
<sup>2</sup> 14.9	6.0	3.5	" " " " " <i>5787.</i> 20 " 1901
<sup>2</sup> 14.9	6.15	3.5	Copahee Sound, S. C. <i>Nat. Mus. Can.</i> 2 May 1912
14.3	<sup>2</sup> 6.35	3.4	Cape Hatteras. <i>Nat. Mus. Can.</i> 4 March 1900
14.23	5.79	3.39	<i>Averages, 15 skins</i>

<sup>1</sup> Minimum.<sup>2</sup> Maximum.

TABLE G.

Average measurements,<sup>1</sup> in centimeters, of the three forms of dowitcher.

Name	MALES			FEMALES		
	Wing	Culmen	Tarsus	Wing	Culmen	Tarsus
<i>L. scotopaceus</i> <sup>2</sup>	14.1	6.22	3.72	14.63	7.26	4.10
<i>L. g. hendersoni</i>	14.5	5.69	3.51	14.7	6.16	3.65
<i>L. g. griseus</i>	14.2	5.44	3.26	14.23	5.79	3.39

<sup>1</sup> Measurements have been taken in the usual manner, except that the tarsus length has been taken according to the method illustrated on p. XIII, vol. I, Witherby (1920) instead of the more common, but less precise, one illustrated in Forbush (1925), vol. I, p. XXXI.

<sup>2</sup> Wing-lengths of both sexes of *scotopaceus* should, perhaps, show a trifle higher average owing to the inclusion of an appreciable percentage of late summer adult skins (marked <sup>2</sup>, tables A & B) with badly abraded primaries. In each case, however, the measurement has been taken from the tip of the rhachis which seems to persist practically complete since the wing-lengths of the birds indicated are not noticeably below those of the remaining skins on the same lists.

DESCRIPTION OF A NEW TANAGER FROM  
ÎLE À VACHE, HAITI.

BY ALEXANDER WETMORE AND FREDERICK C. LINCOLN.

IN further examination of our collections made in the spring of 1931 in Haiti, it develops that the *Phaenicophilus* of Île à Vache, an island off the southern coast of the Tiburon Peninsula, is different from that of the main island. It may be known as

***Phaenicophilus poliocephalus tetraopes* subsp. nov.**

*Characters*.—Similar to *Phaenicophilus poliocephalus poliocephalus* (Bonaparte)<sup>1</sup> but gray of under surface, crown and hind-neck lighter; dorsal surface lighter green; abdomen more whitish; bill slightly longer.

*Description*.—Type, U. S. Nat. Mus. 327,924, male adult, collected on Île à Vache, Haiti, April 28, 1931, by A. Wetmore and F. C. Lincoln (orig. no. 8637), in slightly worn plumage. Anterior portion of crown, lores and sides of head black, with white spots on either side of forehead, and on both upper and lower eyelids; posterior portion of crown and hind-neck neutral gray; back and scapulars warbler green; rump and upper tail-coverts similar, with the feathers tipped lightly with pyrite yellow; wing feathers dusky brown, with exposed portions warbler green, edged externally with pyrite yellow; wing coverts warbler green, edged with pyrite yellow; chin white, with this color extending back as a broad malar stripe on either side of the throat; under surface neutral gray, washed with whitish on the abdomen and median under tail-coverts; bend of wing pyrite yellow; under wing-coverts light mouse gray, with the feathers edged with whitish. Bill black, becoming slate color at the base of the lower mandible; tarsus and toes blackish slate (from dried skin).

*Measurements*.—Males (four specimens), wing 82.2–90.5 (85.9), tail 69.5–72.8 (70.8), culmen from base 20.0–20.8 (20.2), tarsus 22.3–23.7 (23.0) mm.

Females (four specimens), wing 81.4–83.7 (82.5), tail 67.5–69.5 (68.7), culmen from base 19.5–21.2 (20.3), tarsus 21.0–22.8 (21.9) mm.

Type, male, wing 85.9, tail 72.8, culmen from base 20.0, tarsus 23.6 mm.

*Range*.—Île à Vache, Haiti.

*Remarks*.—The lighter coloration of the new race here described is a step in the direction of *Phaenicophilus poliocephalus coryi* of Gonave Island, on the opposite side of the Tiburon Peninsula, but from its insular habitat and geographic situation can not be con-

<sup>1</sup> *Dulus poliocephalus* Bonaparte, Rev. Mag. Zool., 1851, p. 178 (Haiti).

sidered an intermediate development toward that race. It is curious that one skin at hand from Grande Cayemite Island on the opposite side of the peninsula from Île à Vache and so entirely separated from any possible connection with it seems to approach *tetraopes* in its paler color. We do not venture, however, to identify it as anything other than *P. p. poliocephalus* on the basis of this one specimen.

On Île à Vache the "four-eyes," as this Tanager is called by the natives, is common in thickets and is secured without particular difficulty. Supposition that this bird might differ from that of the main island was suggested by one adult skin obtained by the Parish Expedition of 1930 so that we made special effort to obtain a small series.

U. S. National Museum,  
Washington, D. C.

AN EXTINCT ICTERID FROM SHELTER CAVE,  
NEW MEXICO.

BY ALDEN H. MILLER.

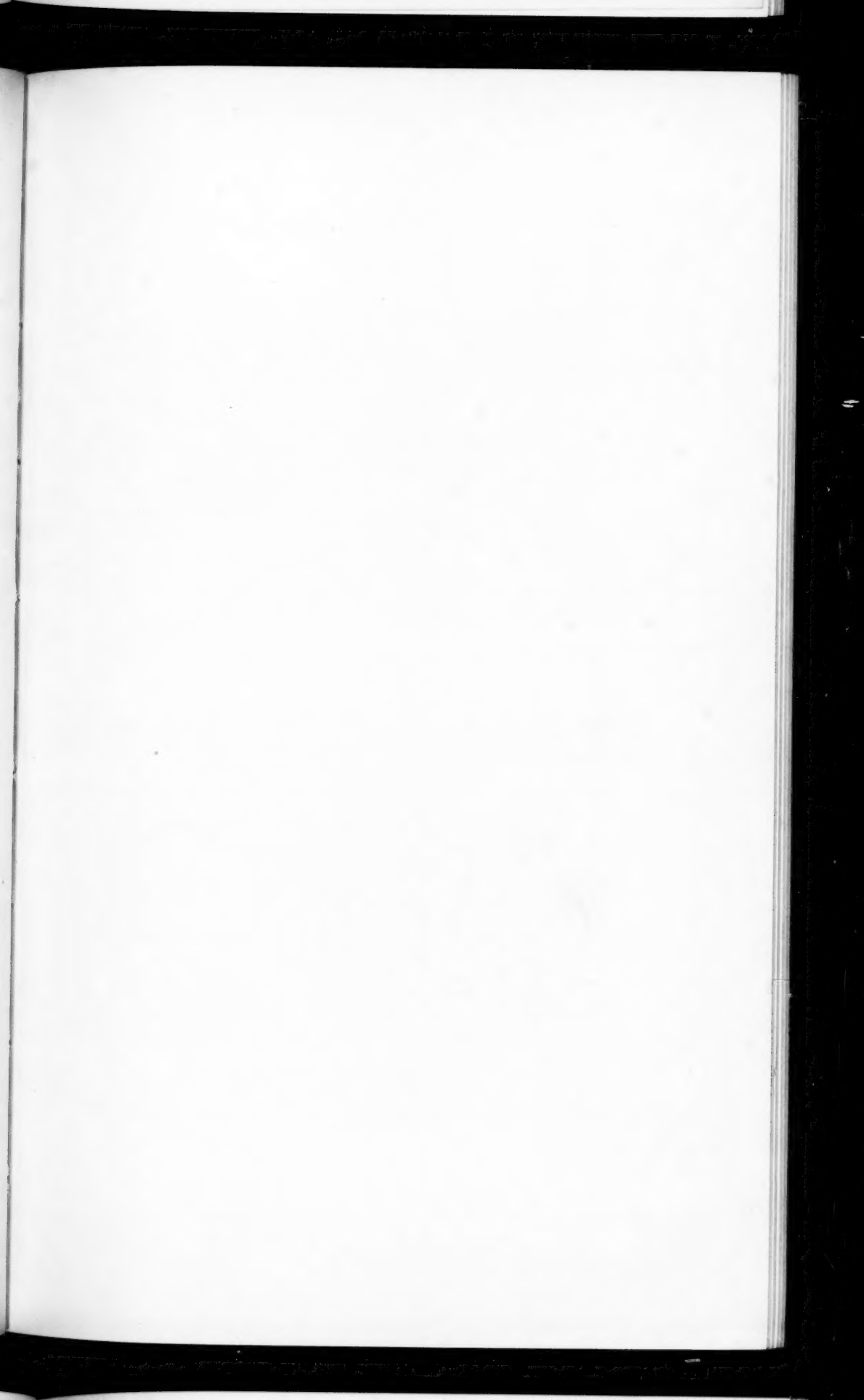
*Plate IV.*

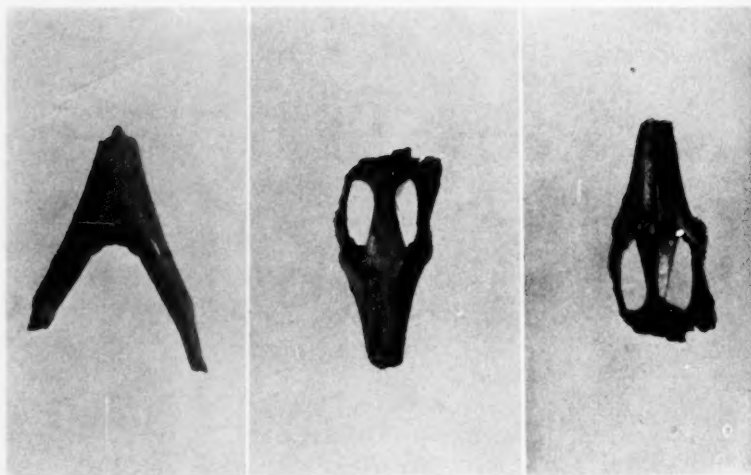
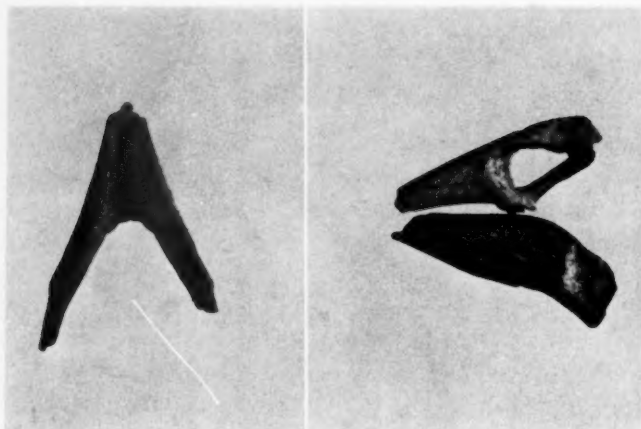
AMONG an assortment of about two hundred passerine bird bones from Shelter Cave, New Mexico, submitted to me for identification by Dr. Hildegard Howard of the Los Angeles Museum of History, Science and Art, there are two mandibles, one upper and one lower, which are of unusual size and proportions. As far as known at the present time, the remainder of the passerine material from this cave, with the possible exception of some very fragmentary parts, is not distinguishable from the bones of living species. Certain of the passerine bones are Recent but others undoubtedly are of considerable age since they were associated with the remains of extinct horses (*Equus*) and antelopes (*Tetrameryx*). The loose matrix of the deposits, which gave little indication of stratification, made it impossible to determine the relative age of the mandibles just mentioned. Nevertheless, the character of the matrix and of the bone shows that the mandibles do not pertain to the uppermost Recent, or guano, layers (see Howard, Condor, XXXIII, 1931, p. 206).

The two mandibles are not known to have been associated in the matrix. Bones were numbered consecutively as collected, and thus proximity of two numbers indicates extraction from the same section of the excavation. The mandibles are numbered 320 and 338, and accordingly, may have come from the same individual. Identification of the two mandibles was made independently. Not until they were found to belong to the same type of bird was it surmised that they represented the same species. Since the association of the mandibles is not proved, I will proceed to a separate discussion of each. I am indebted to Dr. Howard and to Dr. William Alanson Bryan of the Los Angeles Museum for the opportunity to study these specimens and to Dr. Alexander Wetmore of the United States National Museum for the loan of skeletons.

The lower mandible upon examination proves to belong to some member of the Icteridae rather than of the Fringillidae, although







PYELORHAMPHUS MOLOTHROIDES. AN EXTINCT ICTERID.

the latter family contains certain groups which it resembles in some respects. The great depth of the rami at the base of the tomium and the pronounced curvature of the tomium basally are suggestive of a short-billed finch or grosbeak. Contrarily the extreme lateral compression of the distal part of the bill with its concave tomial outline as viewed dorsally and the deep trough in which the tongue rested are distinctly icterine. In fact, these latter features completely outweigh the superficial resemblance in depth of ramus to the bills of grosbeaks. Unfortunately there are no characters in the distal parts of the lower mandible of icterids, fringillids and thraupids, at least known or perceptible by me, which may be used to separate all members of these families. After a study of skulls of all the North American groups of size and character comparable to the specimen, supplemented by examination of skins, drawings and descriptions of such forms, more remote geographically, as might be similar or related, I have concluded that this lower mandible is representative of an icterine type heretofore unknown.

The upper mandible is deep and narrow with an elevated inter-narial ridge and ovate nostrils; it is clearly icterine. It is unlike the upper mandible of other icterids to a degree comparable to the degree by which the lower mandible differs from known forms. Since the lower mandible presents characters which are more obviously unique than those of the upper mandible, I will use the former as a basis for the formal description of a new species of a new genus to be known as *Pyelorhamphus molothroides*.

***Pyelorhamphus* new genus.**

*Generic characters.*—Lower mandible most nearly like *Molothrus* and *Tan-gavius* in the deep, short, sharply pointed bill, but groove for tongue relatively much deeper and narrower; tomial contour, viewed dorsally, strongly concave; tomium, viewed laterally, straight in distal portion (extreme tip lacking) but strongly, although not abruptly, convex basally with ramus relatively deep in this region; ramus posterior to termination of horn sheath strongly deflected downward; angle of rami at symphysis relatively obtuse indicating broad or massive head relative to length of bill.

*Type.*—*Pyelorhamphus molothroides*.

***Pyelorhamphus molothroides* new species.**

*Type.*—Lower mandible, lacking the extreme tip and most of the rami posterior to the region of the horn sheath, no. 320, locality 1010, Los

Angeles Museum, from Quaternary of Shelter Cave, west slope of Organ Mountains, Dona Ana County, New Mexico. Collected by H. A. Wyld and W. M. Strong, August 25, 1930. (See Plate IV, figs. 1, 2 and 3.)

*Description.*—See features as given under generic characterization; in addition, tomium sharp distally but somewhat thickened proximally by development of a moderately broad shoulder or thickening above the point of attachment of the genio-hyoideus muscle; tip constricted, the tomial edges nearly parallel subterminally; sides of groove for tongue high and nearly vertical; gonys practically straight; shape of scar of posterior margin of horn covering and point of insertion of masseter muscle on outer surface of ramus, in so far as present, similar to *Molothrus* and *Tangavius*; size large indicating a bird with decidedly larger or broader head than *Tangavius* or *Euphagus*.

*Referred upper mandible.*—The upper mandible, no. 338 (Plate IV, figs. 2, 4 and 5) from Shelter Cave, consists of the base of the bill forward of the attachment of the jugals but including the entire nostril area. Palatines and extreme tip are lacking. Culmen nearly straight anterior to nostrils; culmen moderately curved above posterior part of nostrils; internarial bridge much broader anteriorly than posteriorly; base of culmen (nasal process of maxilla) elevated posteriorly into distinct ridge rising above posterior part of nasal fossae; angle formed by junction of anterior and ventral margins of nostrils only slightly greater than 90°; maxillo-palatine groove deep and divided medially into two parts; grooves for tomium of lower mandible strongly divergent posteriorly, corresponding in shape with tomium of lower mandible no. 320.

*Measurements.*—Lower mandible: greatest depth of ramus, near base of tomium, 4.6 mm.; greatest width across rami immediately proximad of base of horn sheath, 11.2 mm.; distance from symphysis to proximal end of tomium (base of horn sheath), 7.0 mm.; depth of groove at symphysis, 3.3 mm.

Upper mandible: greatest anteroposterior diameter of nostril, 5.2 mm.; greatest depth perpendicular to tomium at point of attachment to jugals, 4.6 mm.

A number of points of resemblance between *Pyelorchampus* and the cowbirds are to be noted, some of which are mentioned in the above descriptions. The character of the culmen posteriorly is identical with *Tangavius* except for size, and the pattern of the palatal grooves of the maxilla and the shape of the internarial bridge are suggestive of molothrine affinities. In both *Tangavius* and *Molothrus* the lower mandible is stout and deep relative to the upper mandible. This peculiarity of proportions in these icterids led me for some time to overlook the correspondence of the upper and lower fossil mandibles, which correspondence is attested by

the lateral palatal grooves of the upper mandible. Although the resemblances to the cowbirds seem to point definitely to relationships with these icterids, it is not impossible that the similarities are parallel developments and that *Pyelorchamphus* may have phylogenetic affinities with other moderately short- or conical-billed icterids such as *Leistes* or *Psomocolax*. Certainly *Pyelorchamphus* does not seem to be intimately related to the Caciques, Oropendolas, Orioles, Grackles, or Meadowlarks. *Dolichonyx*, although short-billed, has a much shallower lower mandible and differently shaped symphysis than the Shelter Cave bird.

*Pyelorchamphus* presents an extreme shortening and basal thickening of the usual slender, tapering icterine bill. This is carried to a degree unique within the family. Partly as results of the shortening, such features have appeared as the sharp angle formed by the ventral and anterior margins of the nostril and the pronounced medial concavity of the tomium of the lower mandible. Thus, the genus is fairly certainly not ancestral to any known living form and may be regarded as a culmination of a trend in bill shape such as may be seen in the living cowbirds.

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NOTES ON THE MOLTS AND SEQUENCE  
OF PLUMAGES IN THE OLD-SQUAW.<sup>1</sup>

BY GEORGE MIKSCH SUTTON.

A PERUSAL of the literature pertaining to the Old-squaw, *Clangula hyemalis* (Linnaeus), in connection with my study of a representative series of skins collected during 1929 and 1930 at Southampton Island, Hudson Bay, leads me to conclude that there are some misconceptions regarding the molts and plumages of this interesting duck.

Principal among these misconceptions is one which apparently was engendered by Millais (British Diving Ducks, Vol. I, 1913, p. 114) and which has more recently been voiced by Forbush (Birds of Massachusetts and Other New England States, Vol. I, 1928, p. 255) that the Old-squaw is "unique in having different nuptial and winter plumages."

It is not surprising that this misconception has become current. We are so accustomed to thinking of the plumage which is characteristic of the breeding-ground, and of the period just before egg-laying as the nuptial plumage, that it seems perfectly normal to regard the dark plumage of the Old-squaw as its nuptial plumage in view of the fact that mature females practically always, and adult males frequently, arrive at their Arctic nesting-grounds fully attired in this plumage. Furthermore, the mere fact that this so-called 'nuptial' plumage is so infrequently seen in our latitude in its completed state has somehow invested it with a beauty and striking quality which actually, when in direct comparison with the winter plumage, it may not possess.

The male Old-squaw in its summer plumage is, to be sure, a

<sup>1</sup> This paper is based upon a study of forty-six specimens taken throughout the year, as follows: 2 males and 3 females, January; 1 female, April; 2 males and 1 female, May; 4 males and 2 females, June; 1 male and 1 female, July; 3 males and 1 female, August; 5 males and 4 females, September; 3 males and 3 females, October; 1 male and 2 females, November; and 5 males and 2 females, December.

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beautiful bird. But this summer plumage, I am now convinced, is not the nuptial, but rather the 'eclipse' plumage. My reasons for believing that the plumage which Forbush and others call the winter plumage is in reality the nuptial plumage are these: first, the boldly marked, strikingly handsome plumage of the adult male in winter has decidedly more the general appearance of a courting plumage than does the dark, summer plumage; and furthermore the extremely elongated scapulars and high crest of the winter male are altogether ornamental features which are more obviously consistent with a nuptial plumage than is any feature of the plumage which Forbush calls the "nuptial." The bold black and white color-pattern of the male in winter is probably partly protective since the birds frequent the ice-fields where there is considerable white in their habitat, and also since the female is whiter in winter than in summer; but the long scapulars and high crest of the male contribute nothing to any such protective scheme.<sup>1</sup>

My second reason for believing the white plumage worn during the winter to be the nuptial, is that this winter plumage comes the nearest to being a really new plumage that the bird has during the course of the year. The plumage which Forbush calls the 'nuptial' is not a new plumage, for the wings are not renewed as is the body plumage, but are frayed and faded. In this respect the Old-squaw is similar to the rest of the ducks, all of which molt their primaries at the conclusion of the 'eclipse' or *post-nuptial* plumage.

My third reason for believing the white plumage to be the nuptial is that a great deal of courtship and mating takes place while the birds are in this plumage. Mating continues while the spring plumage change is going on, to be sure, and also even after the dark plumage has been assumed; but this does not, to my way of thinking, prove that the white plumage is actually not the nuptial plumage. The frequent retention until spring and summer

<sup>1</sup> Smalley (British Birds, Vol. IX, No. 6, November, 1915, p. 140) says that the "central pair [of rectrices] are quite two inches longer during the period from the molt in April to being cast in July than they are after being grown again in the autumn-molt from October to April." Were these central tail-feathers actually longer during this summer period than in winter I should question the advisability of calling the white plumage the *nuptial*, since these long tail feathers are certainly to a large extent ornamental; in the specimens at hand, however, there is no constant difference in the length of these tail feathers in summer and winter specimens, the longest feathers in the series being in a January specimen.



of part or even all of the winter plumage of the male, a phenomenon which has been referred to by many authors (e. g. Nelson, Report on Natural History Collections made in Alaska between 1877 and 1881, 1887, p. 73), is a point decidedly in favor of this concept. Millais himself (1913, p. 124), though regarding the dark summer plumage as the nuptial, says regarding the courtship behavior of the species: "Even males in full winter plumage will come and be almost, if not quite, as active as the rest [in pursuit of the female]."

My fourth reason for believing the winter plumage to be the nuptial and the summer the "eclipse" is that the male in summer resembles the female much more closely than it does in winter. The most striking characteristic of the eclipse plumage of male ducks in general is that it tends to resemble the summer plumage of the female very closely. While the male Old-squaw in summer differs markedly from the female in possessing the long central rectrices, its color-pattern in general is much more similar to that of the female than it is in winter, the most noticeable difference being the black breast area which is represented in the female only by mottlings and spottings of gray.

From my observations of the species on Southampton Island, I should say that as long as any of the white, winter, nuptial feathers remain in the plumage of the male, courting and mating are likely to continue, and that courting ceases by the time the males are in full summer attire. Practically all the courting and breeding males which I saw or collected still had white feathers on the crown, even as do many of the birds in Millais' spirited drawing (1913, facing p. 128). By the time the females are laying, the males are practically through with their courting, for mating is by this time a matter of brute pursuit, and they are now usually in nearly full summer or eclipse plumage. When the full sets of eggs have been deposited, the males leave the females altogether, desert the nesting-grounds for the most part, and congregate in some favorite feeding-ground where they enter upon the final stage of the post-nuptial molt, the dropping of the wing and tail feathers. Their flightless period, therefore, is spent at sea, as a rule. Occasionally a male bird in the molt is to be seen on one of the inland lakes, but not often.

The new wing feathers may, of course, be regarded as the last stage of the eclipse plumage to appear, but they are more properly the first of the new nuptial plumage, and once these have been donned the molt of the head and body into the striking black and white of winter progresses rapidly. The late appearance of the new wing feathers means that the eclipse plumage is never a completely new plumage, since by the time these wing feathers are fully grown, the dark plumage of the head and back is faded and worn, if not already molted.<sup>1</sup>

The summer or eclipse plumage of the Old-squaw usually begins to appear, then, actually before the nesting season, even before the nesting-ground has been reached, though it is rarely, perhaps never, complete in the male before the female has begun to lay her eggs. This procedure, which is decidedly unusual, if not unique, among the ducks, may be explained in the following manner: first, since the primary purpose of the eclipse plumage is, as I see it, to give the bird a protective coloration during the nesting period, it seems only logical that when the birds shift their activities from the ice-filled bays and inlets to the rock-rimmed inland ponds, they should be equipped with a plumage which harmonizes with the nesting-ground surroundings. Ornithologists who have witnessed summer in the North Country will appreciate the force of this statement. The coming inland of the birds is sudden and widespread and it involves a decided change of habitat. On one day in early summer the tundra may be frozen shut, silent, and apparently lifeless. A week later, this same tundra may be entirely snowless, the lakes all open, and the flowers blooming. Such is the rush of the spring in the Arctic. If the Old-squaw waits until the lakes have thawed to begin its molt, it goes to its nesting-ground in anything but a protective coat; if it molts early, however, it is ready to fly into the grass-lined pools on a day's notice, and the female, rid of her white, winter plumage, can make her nest in the open unafraid of being seen by her enemies.

<sup>1</sup> It is evident from a most interesting specimen taken by Dr. R. M. Anderson at Elson Bay, Point Barrow, Alaska, on August 23, 1913 (Canadian National Museum Collection, No. 7807) that at least in some instances all the plumage of the wings (primaries, secondaries, and apparently all the coverts) and of the back is molted simultaneously. Judging from the condition of four late summer specimens examined, the wings and back feathers are thus molted and renewed before the tail drops out. And by the time the rectrices have dropped out and begun to grow in anew, the 'drab' feathers of the flanks have entirely disappeared.

Second, by the time the birds arrive at their actual nesting-ground the purpose of the nuptial plumage has already largely been served. By the time the females, eager to make their nests, have arrived at their nesting-ponds, they probably have been mated for weeks or even months, the selection of mates (if there be such a definite selection) taking place out among the ice-fields in the salt water. For all I know, the birds may actually mate in the fall.<sup>1</sup> By the time the nesting-ground is reached the taking on of any attractive plumage is unnecessary, for the attracting has already been consummated. Mating may continue to go on, to be sure, and copulation certainly continues, but I question a little whether this species ever mates very definitely, for I saw many males chasing a single female upon several occasions, and was given the impression again and again that the birds were both polygamous and polyandrous. The program of the Old-squaw is, it may be seen, rather different from that of most ducks. It moves northward very early in the spring; in fact, many of the birds probably actually winter in the open waters of Hudson Bay. The days become warm, long and bright, and the procreative urge undoubtedly leads to a great deal of early mating. At this time, long before the actual nesting begins, the winter plumage of the male, which has served as a protective garb among the winter seas, now serves an additional purpose, that of attracting, or of arousing the mating instincts of, the female. But though the handsome courting plumage is desirable at this time, there is an even deeper, more urgent need for a coloration which will be suitable in the nesting environment into which he suddenly must fly; and to meet this need the courting bird, while still courting, molts into the eclipse, in early anticipation of the decided change in environment.

The early summer mating activities of the male Old-squaw as I saw them, were not so much a matter of attracting the female, as of chasing her down. Night and day the pursuit went on, the

<sup>1</sup> The author will not be surprised if we someday learn that mating frequently takes place in this species as soon as the white, nuptial plumage is complete in the fall. The behavior of the winter flocks certainly is that of courting, mating birds. The towering flight, violent pursuit, and other strange antics which are to be seen throughout the winter, especially on fine days, are similar to, if not identical with, the mating performances which are to be observed on the actual nesting-grounds.

males giving their breathy, amorous call-notes ceaselessly, the females quacking loudly as if actually terrified by their consorts. The panting females led the males a wild chase, sometimes sweeping high into the sky, turning almost complete somersaults, then sliding sidewise or shooting downward to plunge without a second's hesitation straight into the water, often without stopping the beating of their wings.

The statement has been made by Ekblaw (cf. Bent, *Life Histories of North American Wild Fowl*, 1925, p. 34) and others, that the males are more numerous than the females and that therefore the "rivalry for the females is very keen, and the fighting continuous." Of conditions at Southampton I should say, not that the males were actually more numerous than the females, but that, due to the polygamous and polyandrous tendencies of the species, more than one male was practically always in pursuit of every female, and this often gave the impression that the males were more numerous. Millais (1913, p. 123) has called attention to this *apparent* overabundance of males among the flocks in early spring. He says: "I have noticed a bunch of eight or ten females swimming apart and not a male going near them, whilst ten or fifteen males will crowd round some particular female and lavish upon her all their arts of charm."

By the time the female birds with nests are incubating their eggs, most of the adult males leave the inland pools and congregate in the bays and inlets, frequently many miles from land. Some unmated females and full-plumaged males remain inland to be sure, but most of the males are gone to sea by the middle of July. Here they lose their faded primaries and secondaries and take on new flight feathers as the first of the new, nuptial plumage which will be worn until the following spring. At about the same time the females, inland with their broods, also undergo the molting of the wing feathers, and with their rapidly developing young await the time when they can fly out to the salt water and join the tremendous flocks of adult and young males, sterile or unmated females, and females whose nests were broken up or whose broods were destroyed before the molting of the wing feathers took place. It is at this time that the birds should take on what Millais has called the special "semi-eclipse" plumage. Millais says (1913,

p. 115): "My examinations of specimens [taken] during this period [from mid-July to September] have led me to conclude that this duck passes into semi-eclipse dress before gaining the winter plumage." This "semi-eclipse" plumage is described by Forbush (1928, p. 255) as "similar to the summer plumage but upper back darker; scapulars brownish or sooty brown, some (particularly the longer) shaded and broadly edged buffy-brown; sides and flanks drab; otherwise as in summer plumage." Mrs. Meinertzhagen (cf. H. F. Witherby, *A Practical Handbook of British Birds*, 1924, p. 340) bases her description of the "eclipse" plumage of the adult male upon a specimen in the E. L. Schiöler collection which may have been either "fully adult or in its second year." The description is as follows: "This plumage is acquired by a partial molt of the head, neck, upper mantle, scapulars, sides of body and flanks, followed by wings and tail in July and August. Some new black-brown feathers are acquired on crown and nape, also on upper mantle, which with abrasion of russet edges of summer feathers causes upper mantle to appear darker than in summer; new scapulars brownish or sooty brown, some uniform, others, especially the longer ones, more or less shaded and broadly edged buff-brown; sides of body and flanks with new drab feathers, drab-grey towards base; rest of plumage that of worn summer."

I have never seen the specimen upon which this description is based; nor have I seen the specimens which Millais describes and unfortunately does not figure; but I have examined enough specimens in this plumage to warrant venturing an opinion that they are actually only individuals wherein the final stages of what I am calling the post-nuptial molt have been delayed. It is well known of course, that this molt of the Old-squaw is very irregular and that it is prolonged through the entire summer. Dark, breeding birds noted or collected at Southampton Island in June and July nearly always had, as has been stated before, traces of the white nuptial plumage on the head and upperparts. Such white plumage was to be seen most frequently on the crown, neck and scapulars. All these white feathers must drop out sometime during the course of the summer or fall, and they must be replaced in due season. These old nuptial feathers are not replaced immediately by new nuptial feathers. Instead, though the season be late, and though



the post-eclipse (prenuptial) molt may be on, these feathers are replaced by new *dark* feathers. Why should there not be, therefore, "new black-brown feathers" on the crown and nape, new scapulars which are obviously different in appearance from the old, worn, faded ones, and so on?

The 'drab' flank feathers, which are certainly noticeable in late summer specimens and which may, according to my observations, be either dark ashy gray, or dark russet brown, are really not part of any "special eclipse" plumage, but merely part of the summer plumage or regular eclipse plumage which appears rather late in the season just prior to the dropping out of the wing and tail feathers. Though these feathers thus come in very late, they apparently drop out promptly. They are rarely to be seen in September specimens, for by this time the flanks are either in the normal winter plumage, or are more or less devoid of the longer flank feathers which are just coming in.

My belief that there is no special "semi-eclipse" plumage at the end of summer began with the conviction that, protectively colored as the bird is, and equipped with a perfectly warm coat of feathers, it really does not need a special plumage, either complete or incomplete, at this time any more than does any other species of duck. The plumage worn during the summer, or the eclipse, as we now understand it, is perfectly suited to the needs of the birds at this time, even though some of the feathers are faded and worn.

The plumage which Millais has called the semi-eclipse is, in reality, then, the full eclipse or the completed *post-nuptial* plumage which corresponds to the winter plumage of other birds even though it is worn during the summer. This plumage is not fully acquired until late in the season because of the long duration of the post-nuptial molt which extends, as has been stated before, from March or April until mid-summer. Judging from the several specimens at hand, and from my mid-summer experience at Southampton Island, I should say that the full eclipse plumage is practically never seen before August, and the drab-colored flanks do not appear until the very eve of the dropping out of the wings and tail.

The plumage which Forbush and others have described as the



"nuptial" is really, therefore, only that part of the eclipse plumage which is usually assumed early in the season. The complete eclipse plumage (or, rather, the eclipse in the most nearly complete state in which it is known to occur) is characterized in general by its sombreness. By the time the last of the eclipse feathers have come in, the earlier ones have become faded and worn, this giving the back and scapulars a very dark appearance; by this time the old, white feathers of the head and neck are all gone, for they have been replaced by the belated summer feathers; the winter feathers of the flanks which are held until mid-summer now drop out and are replaced by new 'drab' feathers which are obviously not very strong, and which will be replaced promptly. Even the light-colored area of the face becomes dingy and dark, or even spotty in appearance, largely due to the fading and exposing by wear of the dark bases of the summer feathers.

The feathers of the Old-squaw's eclipse plumage are apparently much weaker than those of the nuptial plumage, and many of them, notably those of the crest and scapulars, are actually shorter. These eclipse feathers are worn only a comparatively short time, so they do not need to be so strong as those of winter which must be worn from late September or early October to April and May or later.

The fact that the post-nuptial molt of the male Old-squaw is prolonged throughout the spring and summer is most interesting. This prolongation of the molt may be due to the bird's need for a constant and practically complete feather covering such as it might not have were the molt more abrupt and definite; or it may be due to the fact that since most of the bird's vitality is expended upon mating activities in the spring, it is simply not possible for it to undertake the growing of a complete, new set of feathers at the same time. There is obviously some reason for the prolongation of this post-nuptial molt, since the pre-nuptial molt in the fall is amazingly rapid and definite, whole tracts of feathers frequently dropping out in such a way as to give the birds an exceedingly dowdy appearance.

#### *Summary.*

1. The plumage worn by the Old-squaw during the winter is really the nuptial plumage, and the plumage worn during the

summer is really the eclipse plumage. The Old-squaw is not, therefore, "unique in having different nuptial and winter plumages."

2. The molting of the nuptial plumage prior to the actual nesting season is an adaptation to a sudden and decided change in environment.

3. There is no "semi-eclipse" or special mid-summer plumage of any sort which follows the eclipse and precedes the nuptial plumage; but the acquisition of the full eclipse plumage requires so much time, because of the long duration of the post-nuptial molt, that this final stage of the eclipse sometimes has the appearance of an entirely distinct and separate plumage.

4. The great prolongation (throughout the entire spring and summer) of the post-nuptial molt may be due to the bird's need for a constant feather covering such as might not be possible were the molt more abrupt; or it may be due to the inability of the bird to carry on its spring mating activities and to grow a new and complete set of feathers at the same time.

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THE FORTY-NINTH STATED MEETING OF THE  
AMERICAN ORNITHOLOGISTS' UNION  
OCTOBER 19-22, 1931.

BY T. S. PALMER.

A CORDIAL welcome, a varied program, and perfect weather combined to make the 49th Stated Meeting at Detroit, Mich., a decided success. In several respects this meeting was an experiment, as it was the first time the Union had met in Michigan, the first time it had met outside a natural history museum, and the first time the local arrangements had ever been entrusted to a woman, Mrs. Etta S. Wilson, being Chairman of the Local Committee. The headquarters were at the Book-Cadillac Hotel, where every facility was furnished for holding simultaneous sessions and business meetings together with ample space for exhibits.

*Business Sessions:* As usual, the meetings on Monday included two sessions of the Council at 10 A.M., and 2 P.M., a brief meeting of the Fellows at 4 P.M., and meetings of the Fellows and Members at 4.15 and 8 P.M. At the business meeting 44 Fellows and Members were present. The report of the Secretary showed a total membership of 1775, the Treasurer reported total receipts of \$9,909.50, and disbursements of \$9,069.72, leaving a balance of \$839.78, and the report of the Investment Trustees showed the present condition of the permanent funds of the Union.

Five Members were elected from the class of Associates, and on recommendation of the Council three Corresponding Fellows and 215 Associates were also elected. All the officers for 1931 were re-elected for the ensuing year.

The Brewster Medal, awarded biennially to the author of the most important work relating to the birds of the Western Hemisphere published during the preceding six years, was awarded to Mrs. Florence Merriam Bailey for her 'Birds of New Mexico' issued in 1929. This is the first time this medal has ever been given to a woman and the first time for a state list.

The principal business included appropriations for printing the 'Ten Year Index of The Auk' for 1921-30, and assistance in the

publication of the chapter on 'Aves' in the annual volume of the 'Zoological Record.' Authorization was also made for the preparation of a memorial volume to be issued in connection with the semi-centennial meeting in 1933, which will summarize the progress of American ornithology since the organization of the Union.

Resolutions were adopted expressing the thanks of the Union to the Local Committee, the Director of the Museum of Zoology of the University of Michigan, to David Olmsted and the Book-Cadillac Hotel, the Louise St. Clair Chapter of the D. A. R., the Board of Directors of the Cranbrook Institute of Science, and the Detroit Institute of Art for various courtesies extended to the Union during the meeting. The following resolution relative to birds of prey was also unanimously adopted:

RESOLVED, that the American Ornithologists' Union regrets deeply the campaign of destruction waged by certain individuals and interests against the birds of prey, the result being that the numbers of most species are very low, and in some cases total extinction may be approaching;

The Union wishes to place itself on record as being opposed to the said destruction, believing that many of the species affected are positively beneficial and that almost if not quite all the others are now so rare in the breeding season, as to nullify any effect by them on the numbers of other birds;

And the Union is also opposed to the introduction or existence of any laws offering bounties for the destruction of these birds.

Another resolution disapproving of the poisoning of birds and mammals was referred to the Committee on Bird Protection for further consideration.

*Public Meetings:*—The public meetings opened with an address of welcome on Tuesday morning by Hon. Frank Cody, Superintendent of Schools, to which a response was made by Vice President Bent. In the evening at the Art Institute Hon. Frank Murphy, Mayor of Detroit, extended a greeting to the members to which a response was made by Dr. H. C. Oberholser. At Ann Arbor, the President of the University, Dr. Alexander G. Ruthven, welcomed the Union and a response followed by the Secretary.

The program, reflecting some of the more important activities of the members, was characterized by a number of papers on life histories and an unusual number of motion pictures. The outstanding contribution was doubtless Brand's 'Preliminary Report of a

New Method of Recording Bird Songs' illustrated by reproductions of the songs of some thirty species. It is difficult to obtain the song of any particular bird in the field because other sounds and the reverberation of the recording machine are reproduced at the same time. When these obstacles have been overcome, however, it will be possible to have papers illustrated by songs as well as by motion pictures and photographs of the birds.

Several of the members who had recently returned from distant lands were able to contribute very interesting accounts of field work in the Arctic, in Labrador, on Southampton Island, in Manitoba, in Haiti, in Africa and in Madagascar.

The opening paper by B. H. Christy presented, in the absence of the author, by George M. Sutton, was a unique account of the quest for the Condor in California with the aid of an airplane. A number of papers on game birds presented various aspects of conservation and included fine moving pictures of the Long-billed Curlew by W. W. Bennett and the Blue Goose by E. A. McIlhenny. The courtship performance of the Canada Spruce Grouse was described by W. J. Breckenridge, recent changes in the Federal migratory bird regulations and the status of Federal bird refuges were outlined by Paul G. Redington, Chief of the Biological Survey, and a comprehensive paper on the 'Present Status of the Whooping Crane' was presented by Myron H. Swenk. Dr. Allen reported on 'Further Progress in Rearing Ruffed Grouse,' and Dr. H. F. Lewis on 'Duck Production on the Pre-Cambrian Shield' in Canada. Conservation topics were discussed in Pirnie's 'Waterfowl Conservation' in Michigan and an account of the Kellogg Bird Sanctuary, Manuel's 'Relation of the Common Tern to Commercial Fisheries in Saginaw Bay, Mich.,' Peters' 'Insects and other External Parasites of Bird Life,' and Shadle's 'Observation on Avian Mortality in Traffic.'

Important records were contained in Sutton's paper on the 'Nesting of Harris's Sparrow at Churchill, Manitoba,' Baynard's 'First Set of Scott's Seaside Sparrow,' and Bailey's 'Notes on the Rosy Finch Nesting in the Central Sierra of California,' while detailed life history studies were presented in Miss Sherman's 'Habits of the Short-billed Marsh Wren,' Aldrich's 'Notes on the Long-billed Marsh Wren,' Mrs. Nice's account of the Black-throated Green

Warbler, A. M. Bailey's pictures of the Golden Eagle, and F. H. Herrick's 'Bald Eagle in Action.' Other papers on life histories and distribution were Lyon's 'Gulls and Terns of the Great Lakes,' Tyrrell's notes on migration at White Fish Point, Michigan, Wynne-Edwards' description of the roosting of Starlings at St. Lambert, Quebec, Eaton's account of the Starling in New York State, May's 'Birds of the Western Parks,' A. M. Bailey's pictures of 'Louisiana Wild Life,' and Hadley's report, illustrated by excellent pictures, of birds nesting on the Audubon reservations along the coast from Maine to Texas.

Among the more technical contributions were Mayr's 'Problems Presented by the Classification of Island Birds,' Lincoln's 'Sex Ratio in Ducks,' Friedmann's 'Parasitic Habit in Ducks,' Ken-deigh's 'Influence of Temperature on Distribution and Migration,' Boulton's 'Distributional Problems in the Bird Life of African Mountain Rain Forests,' Kramer's 'Early Bird,' Wood's 'Data on Harlan's Hawk,' and Grinnell's 'Inferences from the New Check-List.'

In Allen's account of the 'Fuertes Bird Sanctuary' and Chapman's interesting 'Memories of Fuertes' were recalled some of the activities of Louis Agassiz Fuertes in the field both at home and abroad. In closing, Dr. Chapman suggested that some time it might be possible to have in addition to the Brewster Memorial Fund, a Fuertes Memorial Fund for the recognition and encouragement of outstanding work in bird painting and bird photography.

In addition to the papers listed, several other titles were received too late to obtain a place on the program, and of the fifty-six included, six were read only by title because of lack of time or absence of the authors.

*Exhibits:*—The exhibits this year were unusually varied and were arranged both at the headquarters in Detroit and in the Museum of Zoology at Ann Arbor. The principal feature was an art exhibit comprising some 150 pictures of birds and about evenly divided between paintings and photographs. Each exhibitor was limited to six paintings or ten photographs. A list of the pictures was provided, and the collection was artistically displayed in a room opposite the entrance to the main lecture hall. Most of the paintings illustrated single species but Brandreth and Jaques in-



cluded several artistic scenes while the series of Fuertes pictures consisted entirely of studies of heads. Following are the artists who exhibited bird paintings:

Arthur Augustus Allen	Paul A. Kellogg
Courtenay Brandreth	Roger Tory Peterson
Walter John Breckenridge	Karl Plath
John Templeman Coolidge, Jr.	Earl Lincoln Poole
Edward von Siebold Dingle	William Joseph Schaldach
Louis Agassiz Fuertes, 1874-1927	George Miksch Sutton
Robert Bruce Horsfall	Walter Alois Weber
Francis Lee Jaques	

Photographs were exhibited by the following contributors:

Alfred Marshall Bailey	Kenneth Gordon
Clarence Marvin Beal	Cleveland Putnam Grant
Miss Margaret Lamb Bodine	Miss Elizabeth Kingsbury
Howard Henderson Cleaves	Cyril Elmer Lamb
Albert Hawes Cordier	William Alfred Paff
Joseph Scattergood Dixon	Olin Sewall Pettingill, Jr.
George Miksch Sutton	Wilfred August Welter
William Bryant Tyrrell	Laidlaw Williams

In an adjoining room was a special exhibit illustrating Arthur H. Howell's 'Florida Bird Life' consisting of fifteen original paintings by Jaques, a prospectus of the book and samples of the title page and proofs. At the entrance to the lecture hall was an interesting exhibit of some thirty portraits of Michigan ornithologists furnished by the Museum of Zoology. At Ann Arbor the exhibits comprised a group of Kirtland's Warbler, another of the Passenger Pigeon and a complete series of all the editions of the seven State lists of the birds of Michigan. In the bird range were the unrivalled series of Harlan's Hawk and Krider's Hawk brought together by Norman A. Wood. These and other interesting specimens proved such an attraction that the bird range vied with the lecture halls in holding the attention of members who found the time at the Museum entirely too brief to see and hear all they desired.

*Social Features:*—The social features began with two dinners on Monday evening, one to the Fellows of the Union and the other to the ladies, both tendered by the Local Committee on Arrangements.

The annual dinner on Wednesday was held at the Book-Cadillac Hotel and was attended by 159 members and guests. Dr. Alexander W. Blain acted as toastmaster and introduced the speakers.

An original poem was read by Miss Anne Campbell of Detroit, imitations of bird songs were given by Miss Frances M. Sellers of Scottsburg, Ind., whose ability as a whistler was ably demonstrated by several musical selections, and the entertainment was closed by brief impromptu talks by various members on their personal experiences. On Thursday a luncheon was tendered the members of the Union by the Cranbrook Institute. A brief afternoon session followed and the guests were then shown about the grounds and buildings of this unique educational center.

On Friday morning a trip was taken to Kingsville, Ontario, to the bird refuge established by Jack Miner. Although Mr. Miner was absent and the Canada Geese had not yet arrived, the arrangements for feeding and banding the birds were explained in detail by Mr. Manley Miner, and the party had an opportunity of viewing the extensive grounds and the improvements on the refuge. A large flock of starlings established a roost on the place this autumn and threatened to consume the food intended for robins and other migratory birds. In an effort to reduce their numbers, trapping had been in operation for sixty days previous to the visit and no less than 27,000 starlings had been captured but apparently without materially reducing the flock. After luncheon at Kingsville, the party proceeded to Point Pelee National Park, where under the guidance of W. E. Saunders, P. A. Taverner, and others, the members had an opportunity of seeing some of the birds in this spot made famous by the former work of these and other observers. Several flocks of gulls, terns, hawks, starlings and other birds were observed and fifty-two species were seen by various members during the day.

#### THE PROGRAM.

(Papers are arranged in the order in which they were presented at the meeting. Those marked with an asterisk (\*) were illustrated by lantern slides; those marked with a dagger (†) were illustrated by motion pictures.)

#### TUESDAY MORNING.

Introductory address by A. W. BLAIN on behalf of the Local Committee on Arrangements.

Address of welcome by FRANK CODY, Superintendent of Schools.

Response on behalf of the Union by A. C. BENT.

Roll Call of Fellows and Members, Report of the Business Meeting.

Announcement of the Result of Elections.

Announcement of the Award of the Brewster Medal.

1. A Quest for a Condor. BAYARD H. CHRISTY, Sewickley, Pa. (Presented by GEORGE M. SUTTON.) (10 min.)
2. \*Memories of Fuertes. FRANK M. CHAPMAN, American Museum of Natural History, New York, N. Y. (30 min.)
3. \*Notes Afield in Hispaniola. ALEXANDER WETMORE, Smithsonian Institution, Washington, D. C. (30 min.)
4. \*The Painting Habit of the Satin Bower Bird. LEE S. CRANDALL, New York Zoological Park, New York City. (5 min.)
5. †In and about the Louis Agassiz Fuertes Bird Sanctuary. ARTHUR A. ALLEN, Cornell University, Ithaca, N. Y. (30 min.)
6. Archibald Menzies, First Collector of California Birds. JOSEPH GRINNELL, Museum of Vertebrate Zoology, Berkeley, California. (Read by title.)
7. Bird Songs Seldom Heard. CHARLES B. HUTCHINS, Boulder, Colo. (Read by title.)

TUESDAY AFTERNOON—GENERAL SESSION.

8. In Memoriam: Waldron DeWitt Miller, 1879-1929. JAMES P. CHAPIN, American Museum of Natural History, New York. (Read by title.)
9. Some Inferences from the New Check List. JOSEPH GRINNELL, Museum of Vertebrate Zoology, Berkeley, Calif. (20 min.)
10. Some Habits of the Short-billed Marsh Wren. ALTHEA R. SHERMAN, National, Iowa. (30 min.)
11. Federal Reservations and Recent Changes in Migratory Bird Regulations. PAUL G. REDINGTON, Chief, Biological Survey, Washington, D. C. (5 min.)
12. †The Eagle in Action. FRANCIS H. HERRICK, Western Reserve University, Cleveland, Ohio. (45 min.)
13. A Study of Two Nests of the Black-throated Green Warbler. MARGARET M. and L. B. NICE, Columbus, Ohio. (20 min.)
14. \*A Reconnaissance of Nesting Birds along the Atlantic and Gulf Coasts. ALDEN H. HADLEY, National Association of Audubon Societies, N. Y. (30 min.)
15. Preliminary Report of a New Method of Recording Bird Song (Illustrated by Sound). ALBERT R. BRAND, New York, N. Y. (25 min.)

TUESDAY AFTERNOON—TECHNICAL SESSION.

16. The Parasitic Habit in the Ducks. HERBERT FRIEDMANN, U. S. National Museum, Washington, D. C. (20 min.)
17. \*Problems Presented by the Classification of Island Birds. ERNST MAYR, American Museum of Natural History, N. Y. (30 min.)
18. \*Sex Ratio in Ducks. F. C. LINCOLN, Biological Survey, Washington, D. C. (20 min.)

19. A New Record for the Philippine Monkey-eating Eagle (*Pithecopaga jefferyi*). MRS. M. E. DAVIDSON, California Academy of Sciences, San Francisco, California. (Read by title.)
20. \*Distributional Problems in the Bird Life of African Mountain Rain Forests. W. RUDYERD BOULTON, Field Museum, Chicago, Ill. (30 min.)
21. Influence of Temperature on Bird Distribution and Migration. S. CHARLES KENDEIGH, Baldwin Bird Research Laboratory, Cleveland, Ohio. (20 min.)

TUESDAY EVENING—DETROIT INSTITUTE OF ARTS.

22. †A Year on Southampton Island. GEORGE M. SUTTON, Bethany, W. Va. (45 min.)
23. †Louisiana Wild Life. A. M. BAILEY, Chicago Academy of Sciences, Chicago, Ill. (30 min.)

WEDNESDAY MORNING—MUSEUM OF ZOOLOGY, ANN ARBOR.

24. The Present Status of the Whooping Crane. MYRON H. SWENK, University of Nebraska, Lincoln, Nebr. (20 min.)
25. \*More Data on Harlan's Hawk. NORMAN A. WOOD, Museum of Zoology, Ann Arbor, Mich. (20 min.)
26. †Gulls and Terns of the Great Lakes. WILLIAM I. LYON, Waukegan, Ill. (30 min.)
27. High Lights from some Western Parks. JOHN B. MAY, Massachusetts Department of Agriculture, Boston, Mass. (10 min.)
28. †The Early Bird—Beginning of the Heart Beat and Circulation in the Embryo. BRADLEY M. PATTEN and THEODORE C. KRAMER, Cleveland, Ohio. (30 min.)

WEDNESDAY AFTERNOON—GENERAL SESSION.

29. †Courtship Performances of the Canada Spruce Grouse. W. J. BRECKENRIDGE, University of Minnesota, Minneapolis, Minn. (20 min.)
30. Duck Production on the Pre-Cambrian Shield. HARRISON F. LEWIS, Chief Federal Migratory Bird Officer, Ottawa, Canada. (20 min.)
31. †The Haunts of the Golden Eagle. A. M. BAILEY, Chicago Academy of Sciences, Chicago, Ill. (30 min.)
32. †Glimpses of the Home Life of Birds along the Canadian Labrador. ALFRED O. GROSS, Bowdoin College, Brunswick, Maine. (45 min.)

WEDNESDAY AFTERNOON—CONSERVATION SESSION.

33. The Relation of the Common Tern to the Commercial Fisheries of Saginaw Bay, Mich. CANUTO G. MANUEL, Museum of Zoology, Ann Arbor, Mich. (25 min.)
34. The Starling in New York State. ELON H. EATON, Hobart College, Geneva, N. Y. (15 min.)

35. \*Notes on Whitefish Point, Mich. W. BRYANT TYRRELL, Catonsville, Md. (15 min.)
36. \*The Importance of Insects and other External Parasites to Wild Life. F. C. BISHOPP and HAROLD S. PETERS, Bureau of Entomology, Washington, D. C. (25 min.)
37. \*Waterfowl Conservation. MILES D. PIRNIE, Kellogg Bird Sanctuary, Augusta, Mich. (30 min.)

## THURSDAY MORNING—GENERAL SESSION.

38. \*Lungs of a Train Shed Sparrow. M. W. LYON, JR., South Bend, Ind. and WM. ENGELS, University of Notre Dame, Ind. (5 min.)
39. \*Nesting of Harris' Sparrow at Churchill, Manitoba. JOHN B. SEMPLE, Sewickley, Pa., and GEORGE M. SUTTON, Bethany, W. Va. (15 min.)
40. \*Rosy Finches Nesting in the Central Sierra of California. VERNON BAILEY, Biological Survey, Washington, D. C. (15 min.)
41. \*A Study of the Home Life of the Maryland Yellow-throat. HENRY MOUSLEY, Montreal, Canada. (Read by title.)
42. \*The First Set of Scott's Seaside Sparrow. OSCAR E. BAYNARD, Plant City, Fla. (Read by title.)
43. †A Naturalist in the Arctic. P. A. TAVERNER, National Museum of Canada, Ottawa, Canada. (30 min.)
44. Observations on Avian Mortality in Traffic, 1927-1930. A. R. SHADLE, University of Buffalo, Buffalo, N. Y. (15 min.)
45. †Brief Account of Recent Expeditions in Africa. W. RUDYERD BOUTON, Field Museum, Chicago, Ill. (45 min.)

## THURSDAY MORNING—MOTION PICTURE SESSION.

46. †The Western Grebe and other Dakota Birds. W. F. KUBICHEK, Coe College, Cedar Rapids, Iowa. (Read by title.)
47. †Blue Geese in their Winter Home. E. A. McILHENNY, Avery Island, La. (Presented by T. S. Palmer) (20 min.)
48. †The Roosting of Starlings at St. Lambert, Quebec. V. C. WYNNE EDWARDS, McGill University, Montreal, Canada. (15 min.)
49. †Further Progress in the Rearing of Ruffed Grouse. ARTHUR A. ALLEN, Cornell University, Ithaca, N. Y. (20 min.)
50. †Long-billed Curlew and other Sandhill Birds. WALTER W. BENNETT, Arnolds Park, Iowa. (Presented by T. S. Palmer) (30 min.)
51. †Road-Runner and Hummingbirds. I. H. JOHNSTON, Charleston, W. Va. (30 min.)
52. Notes on the Life History of the Long-billed Marsh Wren. JOHN W. ALDRICH, Cleveland Museum of Natural History, Cleveland, Ohio. (10 min.)
53. †A Visit to the Kellogg Bird Sanctuary. MILES D. PIRNIE, Kellogg Bird Sanctuary, Augusta, Mich. (15 min.)

THURSDAY AFTERNOON—CRANBROOK INSTITUTE OF SCIENCE.

54. Are Rings of Holes in Tree Bark made by Downy Woodpeckers?  
CHARLES W. TOWNSEND, Ipswich, Mass. (20 min.)
55. \*Camera Studies of the Birds of Churchill, Manitoba. JOHN B. SEM-  
PLE, Sewickley, Pa., and OLIN S. PETTINGILL, JR., Middleton,  
Mass. (45 min.)
56. \*A Naturalist in Madagascar. RICHARD ARCHBOLD, American Mu-  
seum Natural History, New York, N. Y. (30 min.)

ATTENDANCE.

The complete registration showed the presence of 23 Fellows, one Corresponding Fellow, 27 Members and 129 Associates, or a total of 180 members, while the visitors increased the total number present to more than 200. For the first time since the meeting in Chicago, in 1922, no Founders were present but the list included three Fellows elected at the first meeting, Ruthven Deane, Thomas S. Roberts and W. E. Saunders. Among those who came from a distance were Dr. L. B. Bishop, Mrs. M. E. Davidson, and Dr. and Mrs. Joseph Grinnell from California; I. N. Gabrielson from Oregon, J. A. Munro from British Columbia, A. C. Lloyd from Saskatchewan, M. H. Swenk from Nebraska, P. A. DuMont and Miss A. R. Sherman from Iowa, A. H. Cordier from Missouri, and H. L. Stoddard from Georgia.

Representatives were present from 21 states, the District of Columbia and 5 Canadian provinces. The States represented and the number registered from each state were as follows: Maine, 1; Vermont, 1; Massachusetts, 8; New York, 24; New Jersey, 1; Pennsylvania, 8; Maryland, 2; Virginia, 2; Georgia, 1; West Virginia, 2; Ohio, 13; Indiana, 3; Illinois, 11; Michigan, 53; Wisconsin, 3; Minnesota, 2; Iowa, 3; Nebraska, 1; Missouri, 1; California, 4; Oregon, 1; District of Columbia, 18; British Columbia, 1; Saskatchewan, 1; Ontario, 12; Quebec, 2; and Nova Scotia, 1.

Seventeen museums were represented by one of more of their members, namely, American, California Academy of Sciences, Canadian National, Carnegie, Chicago Academy of Sciences, Cleveland, Everhart, Field, Museum of Comparative Zoology, Museum of Vertebrate Zoology, Ohio State Museum, Princeton, Public Museum of Milwaukee, Royal Ontario, University of Michigan, University of Minnesota, and U. S. National.



Eighteen Colleges and Universities were also represented, namely, Bowdoin, Cornell, Harvard, Hobart College, Kalamazoo College, McGill, Michigan State Normal College, Notre Dame, Oberlin College, Ohio State University, Princeton, University of Buffalo, University of California, University of Michigan, University of Minnesota, University of Nebraska, University of Toronto, and Western Reserve.

The total attendance was about the same as last year, but the number of States and Provinces larger than ever before, and the number of colleges fifty per cent greater than last year.

As a record of the meeting a group photograph of 135 of those present was taken at the headquarters and another of those visiting Cranbrook.

#### FELLOWS, MEMBERS AND ASSOCIATES PRESENT (BY STATES).

**FELLOWS:**—*California*, Louis B. Bishop, Pasadena; Joseph Grinnell, Berkeley. *District of Columbia*, Mrs. Florence M. Bailey, Herbert Friedmann, Arthur H. Howell, Harry C. Oberholser, T. S. Palmer, Alexander Wetmore, Washington. *Illinois*, Ruthven Deane, Wilfred H. Osgood, Chicago. *Maine*, Alfred O. Gross, Brunswick. *Massachusetts*, Arthur C. Bent, Taunton; James L. Peters, Cambridge; Charles W. Townsend, Ipswich. *Minnesota*, Thomas S. Roberts, Minneapolis. *New York*, Arthur A. Allen, Ithaca; Frank M. Chapman, New York. *Ohio*, Lynds Jones, Oberlin. *Pennsylvania*, W. E. Clyde Todd, Pittsburgh. *Virginia*, Waldo L. McAtee, Cherrydale. *Ontario*, James H. Fleming, Toronto; William E. Saunders, London; Percy A. Taverner, Ottawa.—Total 23.

**CORRESPONDING FELLOW:** Ernst Mayr, New York, N. Y.

**MEMBERS.**—*District of Columbia*, Vernon Bailey, Harold C. Bryant, Frederick C. Lincoln, Edward A. Preble, Washington. *Georgia*, Herbert L. Stoddard, Thomaston. *Illinois*, Alfred M. Bailey, W. Rudyerd Boulton, Chicago; William I. Lyon, Waukegan. *Iowa*, Miss Althea R. Sherman, National. *Massachusetts*, Frederic H. Kennard, Newton Centre; John B. May, Cohasset. *Michigan*, Josselyn Van Tyne, Norman A. Wood, Ann Arbor. *Nebraska*, Myron H. Swenk, Lincoln. *New Jersey*, Charles H. Rogers, Princeton. *New York*, Lee S. Crandall, Mrs. Walter W. Naumburg, New York; Elon H. Eaton, Geneva. *Ohio*, Francis H. Herrick, George F. Simmons, Cleveland; Mrs. Margaret M. Nice, Columbus. *Oregon*, Ira N. Gabrielson, Portland. *West Virginia*, George M. Sutton, Bethany. *British Columbia*, James A. Munro, Okanagan Landing. *Ontario*, Harrison F. Lewis, Hoyes Lloyd, Ottawa; Lester L. Snyder, Toronto.—Total 27.

**ASSOCIATES:**—*California*, 2—Mrs. M. E. Davidson, San Francisco; Mrs. Joseph Grinnell, Berkeley.

*District of Columbia*, 8—W. Howard Ball, C. H. M. Barrett, C. W. H.

- Ellis, W. B. Grange, R. B. Horsfall, Mrs. T. S. Palmer, H. S. Peters, F. M. Uhler, Washington.
- Illinois*, 6—Mrs. H. L. Baldwin, Cleveland P. Grant, S. S. Gregory, Jr., Ashley Hine, C. E. Underdown, Chicago; W. A. Weber, Evanston.
- Indiana*, 3—Wm. L. Engels, Notre Dame; Mrs. E. K. Little, Lowell; M. W. Lyon, Jr., South Bend.
- Iowa*, 2—P. A. Du Mont, Des Moines; W. L. Strunk, Decorah.
- Maryland*, 2—W. C. Henderson, Chevy Chase; W. B. Tyrrell, Catonsville.
- Massachusetts*, 3—Mrs. Owen Durfee, Fall River; Miss Elizabeth Kingsbury, Framingham Center; O. S. Pettingill, Jr., Middleton.
- Michigan*, 51—P. F. Allan, F. N. Blanchard, L. R. Dice, D. W. Douglass, H. K. Gloyd, H. W. Hann, T. D. Hinshaw, C. G. Manuel, Miss Frances Minnich, Adolph Murie, R. E. Olsen, J. C. Salyer, J. H. Wood, Ann Arbor; A. W. Blain, Mrs. W. W. Bowe, Mrs. J. R. Brown, R. E. Follett, W. P. Harris, Mrs. J. W. Hughes, Mrs. H. G. Kiger, Miss M. C. Ladd, W. H. MacCraken, Arch McIntyre, J. C. Peter, Mrs. E. W. Stoddard, Mrs. F. L. Vandever, Mrs. E. S. Wilson, Detroit; B. A. Barber, Hillsdale; Mrs. G. A. Boyd, Dearborn; Wm. G. Fargo, Mrs. E. K. Frey, Jackson; Mrs. C. H. Gleason, Grand Rapids; Richard Gillespie, Bay City; T. L. Hankinson, Ypsilanti; P. F. Hickie, Pinckney; Miss Charlotte Hughson, Highland Park; F. A. McLinden, Flint; Henry C. Miller, Monroe; C. A. Newcomb, Jr., Pontiac; Mr. and Mrs. N. T. Peterson, Battle Creek; Miles D. Pirnie, Augusta; Wm. E. Praeger, Kalamazoo; W. B. Purdy, Milford; Mr. and Mrs. Frank J. Sherman, Huntingdon Woods; E. D. Slawson, Bay City; Frank Smith, Hillsdale; J. W. Stack, East Lansing; Harvey Swanebeck, Fenton; L. H. Walkinshaw, Battle Creek.
- Minnesota*, 1—W. J. Breckenridge, Minneapolis.
- Missouri*, 1—A. H. Cordier, Kansas City.
- New York*, 18—Richard Archbold, J. H. Baker, A. R. Brand, C. G. Fisher, A. H. Hadley, W. W. Naumburg, W. D. Sargent, Carl Tucker, Mrs. Carl Tucker, W. A. Welter, New York; Courtenay Brandreth, Ossining; Verdi Burtch, Branchport; Paul Kellogg, Cortland; J. W. Large, R. H. Lefevre, A. L. Rand, Ithaca; James Savage, A. R. Shadle, Buffalo.
- Ohio*, 9—J. W. Aldrich, S. C. Kendeigh, T. C. Kramer, Cleveland; L. W. Campbell, Toledo; G. M. Cook, Youngstown; W. C. Herman, Cincinnati; E. S. Thomas, M. B. Trautman, C. F. Walker, Columbus.
- Pennsylvania*, 7—John Bartram, West Chester; Mrs. F. H. Coffin, R. N. Davis, Scranton; J. T. Emlen, Jr., Philadelphia; M. G. Netting, Pittsburgh; H. T. Underdown, Philadelphia; T. E. Winecoff, Harrisburg.
- Vermont*, 1—W. P. Smith, Wells River.
- Virginia*, 1—P. G. Redington, Falls Church.
- West Virginia*, 1—I. H. Johnston, Charleston.

*Wisconsin*, 3—O. J. Gromme, C. S. Jung, Milwaukee; A. W. Schorger, Madison.

*Canada, Nova Scotia*, 1—V. E. Gould, Wolfville. *Ontario*, 6—C. H. D. Clarke, T. M. Shortt, Toronto; Eli Davis, J. E. Keays, London; Mrs. Hoyes Lloyd, Ottawa; Mrs. W. B. Perley, Ojibway. *Quebec*, 2—E. A. Falardeau, Quebec; V. C. Wynne-Edwards, Montreal. *Saskatchewan*, 1—A. C. Lloyd, Davidson.

#### ELECTION OF OFFICERS.

The election of officers for 1932 resulted in the re-election of the officers of the preceding year as follows: President, Joseph Grinnell; Vice-Presidents, J. H. Fleming and A. C. Bent; Secretary, T. S. Palmer; Treasurer, W. L. McAtee. Members of the Council (in addition to officers and ex-presidents) J. P. Chapin, Ruthven Deane, H. C. Oberholser, J. L. Peters, C. W. Richmond, T. S. Roberts, and P. A. Taverner.

The Council elected Witmer Stone, Editor of 'The Auk'; W. L. McAtee, Business Manager; George Stuart, 3d, C. B. Riker and Edward Norris, Trustees; and A. C. Bent, Ruthven Deane, J. H. Fleming, W. L. McAtee, and T. S. Palmer members of the Finance Committee.

#### ELECTION OF CORRESPONDING FELLOWS, MEMBERS AND ASSOCIATES.

##### CORRESPONDING FELLOWS—3

Albert Collin, Helsinki, Finland.

Norman Boyd Kinnear, London, England.

Ernst Mayr, New York, N. Y.

##### MEMBERS—5

Clinton Gilbert Abbott, San Diego, Calif.

Oliver Luther Austin, Jr., North Eastham, Mass.

Wilfrid Wedgwood Bowen, Philadelphia, Pa.

Bayard Henderson Christy, Sewickley, Pa.

Mrs. Margaret Morse Nice, Columbus, Ohio.

##### ASSOCIATES—215

The names of Associates who have qualified will appear later in the directory of members published in 'The Auk.'

## REPORT OF THE SECRETARY.

BY T. S. PALMER.

THE forty-eighth year closed with the Union in a satisfactory condition as to its general activities and membership. Two important objects were achieved this year in the attainment of a membership of 2,005 names in the annual list which appeared in the April 'Auk,' and in the publication of the 'Check-List of North American Birds,' which has been under way for some years and was finally issued October 1. The 'Ten Year Index of The Auk' for 1921-30 which has been undertaken by a special committee is well under way and will probably be ready for the press in the coming spring.

*Membership:*—The total membership on October 15, 1931, was only 15 more than reported last year notwithstanding the election at the last meeting of 190 new Associates and 4 Corresponding Fellows. Losses due to death and resignations reduced the total of 2,005 names published in April to 1975 in October. As shown by the annual list, the members are distributed in all of the states and territories and in about 60 foreign countries and colonies. The following tabulation shows the figures of the present membership in comparison with those for the last year and ten years ago:

		Retired	Hon-	Corre-			
	Fellows	Fellows	orary	sponding	Members	Associates	Total
		Fellows	Fellows	Fellows			
1921	46	4	20	80	91	1110	1351
1930	47	3	23	79	103	1705	1960
1931	50	3	25	80	101	1716	1975

The Union has been fortunate this year in having no losses by death either among the Fellows or Honorary Fellows. The deaths include 1 Corresponding Fellow, 4 Members and 14 Associates, a total of 19.

*Activities of Members Abroad:*—As usual a number of our members have been active in foreign lands either in exploration or in travel.

Central America and the West Indies have been visited by at least 7 members. Dr. Josselyn Van Tyne spent several months in

British Honduras and Guatemala and returned with a representative collection of birds from that little known region. Dr. F. M. Chapman, as usual, spent several months at Barro Colorado in the Canal Zone, and the station was also visited by Dr. Thomas Barbour. Dr. Alexander Wetmore and F. C. Lincoln spent two months last spring in Haiti exploring some of the higher mountains in the eastern part of the Republic and also along the boundary line of the Dominican Republic. H. Radcliffe Roberts, George R. Clark and W. W. Bowen, have recently returned from an expedition to Trinidad on behalf of the Academy of Natural Sciences, Philadelphia, and James Bond from the same institution has visited the Bahamas and Jamaica.

South America has been the field of activity of several members. Dr. William Mann, Director of the National Zoological Park left for British Guiana in July and returned October 10 with a general collection of some 400 live specimens, including a number of birds. E. G. Holt, representing the National Geographic Society, accompanied the Boundary Commission of Venezuela making collections of birds along the Brazilian and Venezuelan boundary and returned with about 3,000 specimens which are now in the U. S. National Museum. James A. G. Rehn, Secretary of the Academy of Natural Sciences, Philadelphia, has been collecting for several months in the Province of Matto Grosso, Brazil. M. A. Carriker has recently returned from another trip to Peru where he has been collecting birds for the same institution. D. S. Bullock, who has resided at Angol, Chile, returned to the United States for a visit this past spring. Mr. Bullock is Vice President of the Centro de Investigaciones Cientificas de Angol, and for several years has been making observations on the birds of that region. In 1929 he published a list of the species observed in the vicinity of Angol, containing a Ground Dove (*Columbigallina talpacoti*) which is said to be the first record of the species in Chile.

In Europe, Dr. Casey A. Wood has spent some months in Switzerland and in England completing his 'Introduction to the Literature of Vertebrate Zoology,' and Dr. E. C. Hellmayr has been working during the past summer in Vienna studying the collections in continuation of his work on the 'Birds of the Americas.' Mrs. W. W. Naumburg has, as usual, spent several months in Europe, Mrs.

C. A. Aspinwall has recently returned from a trip to England and Prof. C. F. G. Eifrig from a three months trip abroad.

In Asia, Miss Elizabeth D. Palmer made a trip to Japan, Chosen, and northern China visiting some of the collections in Tokyo and Seoul. N. Gist Gee, who has been working on the birds of China for several years and who brought out a list of Chinese birds in 1926-27, has recently published an addition to this list in the Peking Natural History Bulletin No. 5. Vice Consul Carter R. Whittaker has been transferred from Yokohama, Japan, to Foochow, China. In Siam, Dr. Hugh M. Smith while continuing his investigations on fisheries has been collecting birds and has recently forwarded a consignment to the U. S. National Museum. H. G. Deignan who has been at Chiangmai for several years, plans to leave Siam early next spring returning if possible via New Guinea and Australia.

In Africa, several of the expeditions which were reported in the field last year have now returned. Richard Archbold and P. A. DuMont, who accompanied the Delacour Expedition to Madagascar in the interest of the American, British, and Paris Museums, have returned, as has also Dr. James P. Chapin, who has been working in the Belgian Congo for more than a year. W. Rudyerd Boulton has also returned after completing his work in South West Africa.

Finally, Dr. Glover M. Allen has recently taken up work in the field in Australia, in behalf of the Museum of Comparative Zoology.

*Papers of the Salem Meeting:*—Of the 60 papers presented at the last annual meeting more than one-third have been published—14 in 'The Auk' and 10 elsewhere. In the following list, the titles are given in the form in which the papers were finally published. Those which appeared in 'The Auk' include:

No. 3. Sprunt's 'In Memoriam: Arthur Trezevant Wayne: 1863-1930.'

No. 5. Redington's 'The Bird Work of the United States Bureau of Biological Survey.'

No. 10. Mrs. K. C. Harding's 'Nesting Habits of the Black-throated Blue Warbler.'

No. 12. Mousley's 'Study of the Home Life of the Alder Flycatcher (*Empidonax traillii traillii*).'

No. 13. Terrill's 'Nesting of the Saw Whet Owl (*Cryptoglaux acadica acadica*) in the Montreal District.'

No. 19. Friedmann's 'List of Birds known to be Parasitized by the Cow Birds.'



No. 30. Farley's 'Nesting of the Greater Yellow-legs (*Totanus melanoleucus*) in Alberta.'

No. 32. Phillips' 'Naturalists, Nature Lovers and Sportsmen.'

No. 32a. Adams' 'Wild Life Administration and the Fish and Game Commissioner.'

No. 41. Nichols' 'Notes on the Flocking of Shorebirds.'

No. 43. Jackson and Allan's 'Experiment in the Recolonization of the Common Tern (*Sterna hirundo*).'

No. 48. Shadle's 'A Grand Island, New York, Heronry.'

No. 49. May's 'Simultaneous Moults of the Flight Feathers of the Loon.' (Vol. 47, pp. 412-414, Oct. 1930).

No. 51. Stone's 'The New A. O. U. Check-List.'

Papers published elsewhere include:

No. 8. Harrison's 'Five Year Progress in the Bird Sanctuaries of the North Shore of the Gulf of St. Lawrence,' in *Can. Field Nat.*, XLV, April 1931, pp. 73-78.

No. 15. De Lury's 'Sunspots and Living Things,' in *Trans. 17th Am. Game Conference*, pp. 211-212, 1931.

No. 16. Zimmer's 'Field Notes from Peru' in 'Birds of the Marshall Field Peruvian Expedition, 1922-23,' in *Field Mus. Nat. Hist. Pub.* 282, pp. 233-480, Dec. 1930.

No. 20. Sutton's 'A Year on Southampton Island, Hudson Bay,' in *The Cardinal*, III, pp. 1-5, Jan. 1931.

No. 27. Allen's 'Golf Clubs as Sanctuaries,' pp. 64, *Bull. Nat. Assn. Audubon Societies* (No date).

No. 31. Lincoln's 'Bird Banding, Its First Decade under the Biological Survey,' in *Bird Banding*, II, pp. 27-32, Jan. 1931.

No. 35. Lewis' 'The Relation of Canada Geese and Brant to Commercial Gathering of Eel Grass in the St. Lawrence Estuary,' in *Can. Field Nat.*, XLV, p. 57-62, Mar. 1931.

No. 38. Todd's 'The 1930 Expedition to Hudson Bay,' in *The Cardinal*, III, pp. 6-9, Jan., 1931.

No. 47. Wetmore's 'Bird Life of Ancient Florida,' in "The Avifauna of the Pleistocene in Florida," in *Smithsonian Misc. Coll.*, Vol. 85, No. 2, pp. 1-41, Apr. 13, 1931.

No. 58. Gross' 'Progress Report of the Wisconsin Prairie Chicken Investigation,' *Wisconsin Conservation Commission*, pp. 1-112, 1930.

*Papers of Previous Meetings:*—Recently 7 papers presented at previous meetings have appeared in print in addition to those noted in 'The Auk,' 1931, p. 84.

#### Ottawa Meeting—1926.

No. 47. Palmer's 'Audubon's Shearwater in the United States,' in 'The Auk,' 1931, pp. 198-206.

Washington Meeting—1927.

No. 61. Young's 'Further Notes on the Birds of the Magdalen Islands,' in 'The Auk,' 1931, pp. 240-245.

Charleston Meeting—1928.

No. 14. Lincoln's 'Some Causes of Mortality Among Birds,' in 'The Auk,' 1931, pp. 538-546.

Philadelphia Meeting—1929.

No. 12. Hadley's 'With Fuertes in Florida,' in *Am. Forests*, Vol. 37, pp. 71-73, Feb. 1931.

No. 13. Lewis' 'The Voice of the Double-crested Cormorant,' in *Nat. Hist. Double-crested Cormorant*, pp. 23-24, 60-61, Ottawa, 1929.

No. 32. Chapman's 'The Upper Zonal Bird Life of Mts. Roraima and Duida,' in *Bull. Am. Mus. Nat. Hist.*, N. Y., LXIII, pp. 1-135, 1931.

No. 50. Lewis' 'Development of the Patella in Cormorants' in *Nat. Hist. Double-crested Cormorant*, pp. 46-51, Ottawa, 1929.

During the decade 1921-1930, 545 papers have been listed in the programs of the annual meetings of the Union, but only about 145 or approximately one quarter have been published, and of these less than 100 can be found in 'The Auk.'

DECEASED MEMBERS.

JOHN GUILLE MILLAIS,<sup>1</sup> Corresponding Fellow, aged 66, died at Horsham, Sussex, England, Mar. 24, 1931.

HENRY PHILEMON ATTWATER,<sup>2</sup> Member, aged 77, died at Houston, Texas, Sept. 25, 1931.

MAUNSELL SCHIEFFELIN CROSBY,<sup>3</sup> Life Member, aged 44, died at Rhinebeck, N. Y., Feb. 12, 1931.

GEORGE LINCOLN FORDYCE,<sup>4</sup> Member, died in his 71st year, at Youngstown, Ohio, June 25, 1931.

SPENCER TROTTER,<sup>5</sup> Member, aged 71, died at West Chester, Pa., April 11, 1931.

HENRY REGINALD CAREY,<sup>6</sup> Associate, died in his 41st year at Philadelphia, Pa., May 28, 1931.

CLEMENT WALKER ANDREWS,<sup>7</sup> Associate, died in his 73d year at Chicago, Ill., Nov. 20, 1930.

GEORGE IRVING CARPENTER,<sup>8</sup> Associate, died in his 53d year at Brooklyn, N. Y., Jan. 29, 1930.

<sup>1</sup> For obituary notice, see 'Auk' XLVIII, pp. 472-473.

<sup>2</sup> " " " " " XLIX, " 144-145.

<sup>3</sup> " " " " " XLVIII, " 320-322.

<sup>4</sup> " " " " " " " 647-648.

<sup>5</sup> " " " " " " " 471-472.

<sup>6</sup> " " " " " " " 473-474.

<sup>7</sup> " " " " " " " 329.

<sup>8</sup> " " " " " " " 474.

FRANK WATKINS COMMONS,<sup>1</sup> Associate, aged 71, died in Minneapolis, Minn., Dec. 28, 1930.

VICTOR JUSTICE EVANS,<sup>2</sup> Associate, died in his 66th year at Washington, D. C., Feb. 1, 1931.

DANIEL CHESTER FRENCH, Associate, aged 81, died at Stockbridge, Mass., Oct., 7, 1931.

JAMES STEWART HINE,<sup>3</sup> Life Associate, died in his 65th year at Columbus, Ohio, Dec. 22, 1930.

CHARLES WILLIAM JENKS,<sup>4</sup> Associate, aged 81, died at Bedford, Mass., Dec. 25, 1929.

MRS. EDWIN ROBERT JUMP, Associate, of Newton, Mass., died in 1931.

MRS. NETTIE LOUISE PURDY MOORE, Associate, aged 63, died at Detroit, Mich., July 3, 1931.

JOSEPH PARKER NORRIS, JR.,<sup>5</sup> Associate, died in his 60th year at Philadelphia, Pa., Jan. 18, 1931.

THOMAS SPENCER, Associate of Tobago, died in 1930.

MRS. EDGAR STURGE,<sup>6</sup> Associate, aged 54, died at Scranton, Pa., Nov. 24, 1930.

HARRY WOLSTENHOLME,<sup>7</sup> Associate, aged 62, died at Sydney, Australia, Oct. 14, 1930.

Mention should also be made of DAVID STARR JORDAN, who, prior to his resignation in 1917, had been on the rolls of the Union for 32 years—as an Associate from 1885 to 1901 and as a Member from 1901 to 1917. Dr. Jordan died in his 81st year at Stanford University, Calif., Sept. 19, 1931.

<sup>1</sup> For obituary notice, see 'Auk,' XLVIII, pp. 474-475.

<sup>2</sup> " " " " " " " " 326-327.

<sup>3</sup> " " " " " " " " 323-325.

<sup>4</sup> " " " " " " XLIX, " 147.

<sup>5</sup> " " " " " " XLVIII, " 329-330.

<sup>6</sup> " " " " " " XLIX, " 148.

<sup>7</sup> " " " " " " XLVIII, " 326.

## REPORT OF THE COMMITTEE ON BIOGRAPHY AND BIBLIOGRAPHY.

BY T. S. PALMER, CHAIRMAN.

A CONSIDERABLE part of the efforts of the committee this year has been devoted to assisting the Editor in proof reading the 'Check List of North American Birds' and several numbers of 'The Auk.' In the annual list of members which appeared in the April number special efforts were made to complete the names and all except about 35 were published in full. As heretofore the committee has been called on for information regarding the full names of ornithologists and these data have been furnished whenever possible notably for Howell's 'Florida Bird Life.'

Obituary notices have been prepared by members of the committee or at their solicitation for 15 of the members who died. In addition notices have been published of several members who died in previous years but concerning whom information was not available at the time. A list of the resting places of about 40 deceased ornithologists has also been prepared for publication.

During the year considerable correspondence has been carried on with libraries in various parts of the country in assisting them in building up or completing their sets of 'The Auk.' The list of public libraries where 'The Auk' may be found was published in 'The Auk' for October 1930. Ten additions to this list have since been made, namely:

- California—Institute of Technology, Pasadena.
- Florida—University of Florida, Gainesville (C. W. Richmond Set).
- Illinois—Greenville College, Greenville.
- Louisiana—Howard Memorial Library, New Orleans.
- Maryland—Academy of Sciences, Baltimore.
- Massachusetts—Marine Biological Laboratory, Woods Hole.
- Michigan—Cranbrook Institute, Bloomfield Hills.
- Nebraska—Public Library, Omaha.
- Virginia—State Library, Richmond.
- Ontario—University of Western Ontario, London (J. E. Keays Set).

The list of complete sets of 'The Auk' remains approximately the same as that published in the report for last year. Two additions to the list include a set in Wellesley College, Mass., and an extra

set acquired by Frank Walters. Several transfers which make no change in the totals may also be noted:

The C. W. Richmond set is now in the University of Florida at Gainesville, that of J. E. Keays is in the University of Western Ontario at London, Ont., the A. T. Wayne set has been acquired by Frank Walters, and the set belonging to F. M. Dille has been transferred from Valentine, Nebr. to Rapid City, S. D.

Early in the spring the committee assembled certain information regarding the Union under the title, 'The A. O. U. at a Glance,' published on the back cover of the April 'Auk' and also as a separate circular. This statement has been useful in soliciting new members.

During the year one addition has been made to the series of historical papers on notable bird collections, namely the account by Mrs. W. W. Naumburg of the collection of the Senckenberg Museum at Frankfort-on-Main which appeared in 'The Auk' for July, 1931. This is the fifth in a series of such contributions including accounts of the collections in the Berlin Museum (Auk, 1925, pp. 241-245), Museo Nacional, Buenos Aires (Auk, 1926, pp. 37-46), Royal Museum at Stockholm, Sweden (Auk, 1926, pp. 434-446), and Munich (Auk, 1928, pp. 293-301). Accounts of the collections at Vienna, Austria, and Warsaw, Poland, are now in preparation.

*State Lists:*—With the appearance of the new 'A. O. U. Check List' containing a modern classification and many changes in names, the older state lists will prove less convenient for consultation and no doubt in some cases revised editions will be issued, arranged according to the new 'Check List.' Thirty-seven states have published lists of their birds since 1900 but in one-third of this number the publications are more than 20 years old and are rapidly becoming out of date. The states which have published lists between 1901 and 1910 are Delaware, Illinois, Iowa, Maine, Missouri, Nebraska, New Hampshire, New Jersey, Ohio, Oregon, Vermont, and Washington.

No recent State Lists are available for Georgia, Idaho, Indiana, Kansas, Maryland, Minnesota, Mississippi, Nevada, Rhode Island, Tennessee or Texas. A notable addition to the state lists under the title of 'Florida Bird Life' is now in press and work on the 'Birds of Minnesota' is almost completed. A voluminous work on the birds of Texas has been in manuscript for some years and it is hoped that

means for its publication in the near future may be obtained. Work is progressing on new state lists for Nevada, Oregon, Tennessee, Utah, and Wyoming, and it is hoped that they may be completed at no distant date. 'Florida Bird Life,' 'Birds of Minnesota,' and the 'Birds of New Mexico' are all arranged in accordance with the new 'Check List.'

*Publications of 1831.*<sup>1</sup>

In connection with the new 'Check-List' it may not be amiss to refer to some of the important publications of a century ago. The year 1831 witnessed the appearance of several important publications on birds, including about 30 plates of Audubon's 'Birds of America' and the final parts of Lesson's 'Traité d'Ornithologie.' In these parts were described the genera *Bartramia* and *Podilymbus*. The 'Magazin de Zoologie' which contained numerous descriptions of new birds began publication in 1831. The Jameson edition of Wilson and Bonaparte's 'American Ornithology' was another book of this year, and contains the original description of the Trumpeter Swan. The second edition of Montagu's 'Ornithological Dictionary of British Birds,' edited by James Rennie, bears date of 1831. Bonaparte's 'Saggio' was published partly in 1831 and partly in 1832, while Richardson and Swainson's 'Fauna Boreali Americana' bears date of 1831 but actually came out in February, 1832. Mention may also be made of articles in the 'Isis,' by Johann Wagler, on birds of Mexico, in which he described various new species, including *Larus pipixcan*, *Parra gymnostoma*, *Columba flavirostris*, and the genera *Geococcyx*, *Junco*, and *Toxostoma*.

COMMITTEE:

T. S. PALMER, *Chm.*  
GLOVER M. ALLEN  
RUTHVEN DEANE  
C. W. RICHMOND

<sup>1</sup> For these notes I am indebted to Dr. Chas. W. Richmond, who has kindly listed the important publications above mentioned.



## REPORT OF THE COMMITTEE ON BIRD PROTECTION.

BY H. C. BRYANT, CHAIRMAN.

SINCE its last report the Committee on Bird Protection has held two meetings in addition to reviewing many situations by means of letters and memoranda. During the year there have appeared numerous projects needing analysis and support. Some encouraging events in the cause of bird protection have been the increased interest of Congress in conservation matters as indicated by the creation of the Special Senate Committee on Conservation of Wild Life Resources and its pertinent report, issued January 21, 1931, the shortening of the season on waterfowl prescribed by the Department of Agriculture; several federal and state additions to the bird refuge system; numerous articles in magazines designed to increase knowledge relative to birds and their value to mankind; and newspaper publicity campaigns such as that by the Brodie Club of Canada relative to the value of predatory birds.

In that the Committee actively supported the move to repeal the goshawk bounty law in Pennsylvania we are sorry to report that no change was made in this law. On the other hand, we are happy to report that the hawk bounty law in Maryland, the repeal of which the Committee urged, was revoked. What the repeal of this law means in the way of conservation is indicated by the following figures furnished by the State Game Warden: In 1930 the State of Maryland paid a bounty on 22,283 hawks, of which number 13,634 were killed in Dorchester County alone, that county apparently being frequented by large numbers of hawks during their migrations.

This victory for conservation of predatory birds was tempered, however, by the unfortunate changes in Virginia and Maryland game laws that remove protection from the Bald Eagle. Estimates indicate that whereas there are probably not more than 15 pairs of Bald Eagles left in Pennsylvania, there are many pairs near the mouth of the Potomac River in Maryland and Virginia. The persistence of the species in Virginia and Maryland is threatened by this removal of protection from the bird that was chosen as the national emblem. Missouri took a backward step and established

a bounty of 50 cents on hawks, certain owls, and eagles, thus becoming, so far as we are aware, the first state to offer a bounty on eagles. After consideration of various methods for insuring more adequate protection to the Bald Eagle, the Committee feels that if proper information were furnished to women's clubs and like organizations and these groups were stirred to action, sufficient sentiment could be developed to bring about federal legislation giving total protection to this notable bird.

The Committee is unable to report any marked change for the better in the status of any of the species considered to be disappearing except that there seems to be an improvement in regard to the Trumpeter Swan. During the summer of 1931, a census of this species was made in the Yellowstone region by the Wild Life Survey of the National Park Service which revealed 20 adult birds and 15 cygnets. The Sage Grouse in its present restricted range and diminished numbers is in a precarious condition and while we commend highly those states that give it careful protection we deplore the action of certain other states that allowed an open season, especially at a time in August when the young birds are practically helpless. Throughout the country there have been reports of drought conditions and resultant scarcity of waterfowl. It is hoped that the reduced season now provided by federal proclamation may ameliorate this adverse situation.

No instances of the introduction of exotic species entailing danger to native birds have been brought to the attention of the Committee. Experience having shown that discussion of such problems usually does not take place until after the damage has been done, the Committee is anxious to be alert to avoid further unfortunate introductions.

Drainage, lighthouses, oil pollution, and poison campaigns continue to menace certain kinds of bird life.

Fortunately there is a tendency for states to awaken to the oil menace and to take steps to improve the situation. Michigan has a State Commission, and several states have passed laws helpful in controlling oil pollution. Convinced that there is still need for definite action looking toward better control of the oil menace the Committee has decided to present a resolution for action by the American Ornithologists' Union.

It is the belief of the Bird Protection Committee that the dangers in the indiscriminate use of poison should be fully recognized and that control measures should be undertaken only after careful investigation has conclusively proved the necessity therefor, and then only by specialists, in order that bird life may be properly safeguarded.

Particular attention is called to a grave danger that laws against the importation of plumage may need strong support during the next few years. There has been a change in fashions, and feathers are being used more widely by the millinery trade. Inquiries about importation of the plumage of birds said to be of "no value" are becoming increasingly frequent. Staunch support of present protective laws will be necessary.

COMMITTEE:

H. C. BRYANT, *Chm.*  
FLORENCE MERRIAM BAILEY  
ARTHUR C. BENT  
BAYARD H. CHRISTY  
S. G. JEWETT  
E. A. PREBLE\*

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\* Hoyes Lloyd, also a member of the Committee, did not sign the report because he is an officer of the Dominion Government.

### GENERAL NOTES.

**The European Cormorant in New Jersey.**—The status of *Phalacrocorax carbo carbo* as a bird of New Jersey has been somewhat in doubt. Indeed until the publication of the shooting of a specimen on the Georgia coast (Auk, 1931, p. 279) I do not recall a definite record from anywhere south of Long Island. It is therefore a satisfaction to be able to record a bird in immature plumage secured by Mr. Joseph Harrison, on October 21, 1929, near Salem, N. J., at the head of Delaware Bay.

This specimen he has generously presented to the Academy of Natural Sciences where it is now preserved. He states that it was in company with another apparently of the same kind.

It shows a considerable amount of pure white on the middle of the abdomen and breast which together with its large size and the presence of fourteen rectrices establishes its identity beyond doubt. The central pair of rectrices are, by the way, only partly grown and would therefore appear to be molted at a different time from the remainder, unless this individual is for some reason abnormal.

The old name of "Common Cormorant" has been changed to "European Cormorant" in the new edition of the "A. O. U. Check-List," as it was distinctly misleading, so far as America is concerned, where the bird is anything but common, our "common" Cormorant being the Double-crested species. Such vernacular names may be the cause of many an erroneous record which has doubtless been the case with the species in the past.—WITMER STONE, *Academy of Natural Sciences, Philadelphia*.

**Notes on Herons at Scammons Lagoon.**—On a recent trip down the Mexican coast in the yacht "Valero III," G. Allan Hancock of Los Angeles, owner, the Zoological Society party stopped at Scammons Lagoon to collect specimens for our aviary. On August 8, we found nesting there a good many Snowy Herons, Louisiana Herons, Black-crowned Night Herons, and a few Reddish Egrets. We also saw a few dozen Yellow-crowned Night Herons, but could identify no nests. Our time at this bird colony was very limited due to the weather conditions and I am sorry not to be able to make a more detailed report as to numbers. Most of the Snowy Egrets (*Egretta thula brewsteri*) were still on eggs, although anywhere from twenty to twenty-five nests contained young birds. We brought back seven specimens of the latter, two Reddish Egrets for the Mexican government and fifteen Louisiana Herons.—BELLE J. BENCHLEY, *Zoological Garden, San Diego, Calif.*

**Experiences in Breeding Egrets in Captivity.**—Apropos of the Scammons Lagoon trip, the fact that we have this year raised in our great flying cage in the Zoological Garden one young Reddish Egret may be of interest. The parents of this bird were brought to the Zoo from Scammons Lagoon in 1928, being very young fledglings at that time. This year they

built their nest in a eucalyptus tree on a branch overhanging one of the ponds, at least thirty feet above the floor level. When we first discovered the nest, an American Egret male bird, which we had had in the cage for several years, was occupying it. As we had recently had a second American Egret shipped in from Panama, we hoped for a few days that this nest might belong to the white birds, the male bird having displayed symptoms of home making each year during the nesting season. Closer observation convinced us that the nest was really that of the Reddish Egrets. Two eggs were laid but one was pushed from the nest and destroyed. During the period of incubation, the American Egret shared the vigil with the two Reddish Egrets. When he would approach the nest, usually about nine o'clock in the morning, he always carried a stick in his mouth and, as he got close to the edge, whichever one of the real owners was incubating would stand up and accept the stick from him and lay it on the edge of the nest. It would then fly down to the feeding ground with apparent confidence that the nest would be properly cared for in its absence. Before settling down to cover the eggs, the white Egret would pick up his stick and work it carefully into the nest on the outer edge. This is the habit with the Reddish Egrets under the same circumstances. This ceremony was performed many times regardless of which bird was going on relief duty. The arrangement seemed perfectly amicable. The white Egret took his turn both in feeding and brooding until the young Egret was ready to leave the nest.—BELLE J. BENCHLEY, Zoological Garden, San Diego, Calif.

**Egrets at Quincy, Ill.**—During the last several years I have noted repeated reference in 'The Auk' to the sporadic appearance of egrets throughout the northern states. Until 1928 such a visit was of occasional occurrence along the Mississippi River this far north. However, during the last three years, American Egrets have increased until during August of this year it was a common sight to see numbers of them fishing from almost any sand bar. Associated with them were numbers of Great Blue Herons and also some immature specimens of the Little Blue Heron.

On August 30, 1931, I watched more than thirty of the immature Little Blues (*Florida caerulea*), settle about an inlet of a river sand bar. The following week I was called to the river front by the city engineer. With his surveying instruments, I was able to count eighteen American Egrets (*Casmerodius albus egretta*), three Great Blue Herons (*Ardea herodias herodias*), and several of the immature Little Blue Herons. They were feeding on a mud bar across the river.

Yesterday I visited the Duck Island Hunting Club on the Illinois River and talked to the keeper who says that for three years the "Great White Cranes," as he called them, have been very numerous. To verify this he took me to Buckbrush Lake where I counted 168 Great Blue Herons, 64 American Egrets, two Little Blues, and some American Bitterns (*Botaurus lentiginosus*), either standing in the shallow water or upon the shore.

I am giving this information because I feel that the appearance of the Egrets and immature Little Blue Herons has become a regular occurrence, at least as far north as the fortieth parallel of latitude. Reports from other sections of the country show the decrease in appearance of Egrets during 1931. Certainly this cannot be said to be the case here along the Mississippi River.

There are no nesting records to report for the egret, although I recently discovered a rookery with half a hundred nests of the Great Blue Heron and half a dozen of the Double-crested Cormorants (*Phalacrocorax dilophus*) and have a record of a pair of American Egrets seen on Lima Lake as early as June 7, 1928.—F. E. MUSSELMAN, Quincy, Ill.

**European Teal (*Nettion crecca*) in Essex Co., Massachusetts.**—On November 22, 1931, a large party of observers noticed four ducks on the upper basin of the Artichoke Reservoir in West Newbury, a fine locality for our rarer wild fowl. I had with me one of the new very powerful Zeiss telescopes with three oculars on a revolving disk, and setting it up on its tripod, we soon found that the ducks were Baldpates. While looking at them I discovered a pair of Green-winged Teal sitting on the beach, and noted the pretty clean gray effect of the male and his chestnut head. For twenty years I have carefully examined all drake teal, well seen in North America with the hope of finding a European Teal. On this particular occasion I suddenly registered the fact that my teal lacked the conspicuous white bar on the side of the breast in front of the wing, and more careful study showed the presence of the characteristic longitudinal white stripe on the scapulars. The teal persisted in squatting on the beach, often facing us, but occasionally would rise and waddle a few feet only to squat again. Whenever a side view was obtained, the absence of the breast bar was very conspicuous, but the scapular stripe was inconspicuous unless the bird was actually walking. The party consisted of Messrs. Francis H. Allen, C. E. Clarke, George Perry, and R. J. Eaton of the Nuttall Ornithological Club, and John H. Baker of the Linnæan Society of New York. It took some time, but most of us managed to see both points, including the brothers of two of the party, who were not experienced students of birds. After twenty minutes or so, a flock of ten Green-winged Teal suddenly appeared and circled about the basin. They were immediately joined by the two other teal, and all twelve darted off to the south. There is, of course, no knowing to what species the female belonged. I have been familiar with the European Teal in life for years, was thoroughly conversant with the differences between the two species, and recognized the identity of the bird immediately. There is no previous record for Essex County, but according to Forbush, there are three specimens from Massachusetts, and at least three other records for New England. He describes the bird correctly in his 'Birds of Massachusetts,' but by a curious lapse, the distinguishing characters of the two species are reversed in the paragraph on "field marks."

—LUDLOW GRISCOM, *Museum of Comparative Zoology, Cambridge, Mass.*



**The Marsh Hawk in the North Carolina Mountains.**—In 'The Birds of North Carolina,' by Messrs. Brimley and Pearson, the range of the Marsh Hawk (*Circus hudsonius*) is given as "whole state east of the mountains in winter; otherwise recorded by Cairns as an uncommon fall transient in the mountains of Buncombe County, and by Coues as a common resident near Beaufort, on the coast."

Though no definite elevations are given by Cairns for Buncombe County in regard to the observance of this species, his statement that it is uncommon coincides with the writer's experience, although rare would be more applicable for, after some fifteen years of study of the summer and fall birds of the mountain region, I have observed the Marsh Hawk on but one occasion on August 20, 1931, at Blowing Rock, Watauga County, at an elevation of 4000 feet.

Four days later, on the 24th, Miss Mary L. Vardell, saw a Marsh Hawk over the golf links of the Green Park Hotel, about two miles and a half in an airline from Cone's Lake. In view of the fact that the species seems never to have been observed about Blowing Rock previously, it is highly probable that the same bird was seen on both occasions. Though often spending much, or all, of September in Buncombe County, at an elevation of about 2500 feet, the writer has never seen *Circus hudsonius* in that section. The line of migration evidently passes some distance to the eastward.—ALEXANDER SPRUNT, JR., 92 South Battery, Charleston, S. C.

**Early Fall Records of the Marsh Hawk in Alabama.**—While driving along a country road on August 25, 1931, I saw a Marsh Hawk at close range flying low over a pasture on the plantation of W. H. Vaughn, about five miles southeast of Montgomery. A week later, when I related the occurrence to Duncan McIntosh, of Fairhope, he told me that he had seen a Marsh Hawk at Gulf Shores, near Foley, on August 30, 1931, and another the next day at Cochran Bridge, near Mobile.

The earliest date of arrival of the Marsh Hawk in Alabama that I find in the literature is September 15 (Howell, Birds of Alabama, 1924, p. 130). The dates given above, therefore, set a new record.—ERNEST G. HOLT, 312 Bell Building, Montgomery, Ala.

**Virginia Rail in the Stomach of a Green Frog.**—At Bush River near Perryman, Md. in June, 1929, I discovered in the stomach of a green frog a downy young Virginia Rail (*Rallus limicola*).—W. STUART CRAMER, 44 E. Orange St., Lancaster, Pa.

**The Recent Nesting of the Piping Plover in Connecticut.**—That the Piping Plover (*Charadrius melodus*) has increased in recent years and now breeds regularly on beaches of Long Island and Massachusetts is well-known. These changes in shore-bird life, however, take place more slowly on beaches within Long Island Sound than on those of the open ocean. For the past ten years I have been watching for the return of the Piping Plover without success until this year, 1931.

On May 13, 1924, Dr. Winsor M. Tyler and Mr. Samuel E. Brown saw a single bird of this species on the beach at Great Marsh, Westport, Conn. This bird, however, was not seen again and was evidently only a migrant. It is the only Connecticut record I know anything about between 1904 and my record of this year (1931).

On June 6, 1931, while watching the still migrating shore-birds on Lordship Beach, Stratford, Conn., I came upon a pair of Piping Plovers, acting very much as if they had a nest or nesting intentions. On June 13, I returned, in company with my son, Stanley B. Saunders. We searched the beach for about two hours, finding five nests of the Spotted Sandpiper but no nest of the plover, though we obtained a good idea, from the actions of the birds, of the vicinity in which it was probably located.

On June 20 I returned again, and after some search finally located the nest, with its four eggs. It was less than fifty feet from one of the sandpiper nests found the previous week. How difficult it was to see the eggs, unless the eye was directly on them, was shown by one of my foot-prints made some ten minutes before, and less than a foot from the rim of the nest. All of the sandpiper nests were hidden in the beach grass, but the plover's nest was on the open beach. The nest was merely a hollow in the sand between two large oyster shells. The bottom was beautifully lined with bits of broken shell.—ARETAS A. SAUNDERS, *Fairfield, Conn.*

**Incubation Period of the Killdeer.**—A Killdeer's nest was found on the cinder grading about three feet from the track of a small electric train at the salt works near the Great Salt Lake, Salt Lake County, Utah. The nest itself was a shallow depression in the cinders but was difficult to locate because small white pebbles had been placed, apparently by the bird, about the nest.

When first found on April 29, 1931, the nest contained three eggs and on the following day the fourth egg had been deposited. The site was passed almost daily and each time the bird would fly off the nest but toward the latter part of the incubation it would only raise off the nest and settle back as soon as the engine had passed.

On May 27 the nest still contained four eggs and when observed on the 28th three small birds followed the parent from the nest. The fourth egg remaining in the nest failed to hatch. The incubation period in this instance was just 28 days.—JOHN W. SUGDEN, *Salt Lake City, Utah.*

**Occurrence of the Golden Plover on the South Carolina Coast.**—In view of the fact that the writer published, in 'The Auk,' (Vol. XLVIII, page 415), an account of the first occurrence of *Pluvialis d. dominica* in South Carolina during the spring migration, it will perhaps be of interest to note that this record is now followed by the first October record of the species for the state.

On October 15, 1931, in company with Messrs. Edward A. Simons and E. Milby Burton, both of Charleston, the writer saw a fine specimen of the

Golden Plover at White Point, Slann's Island, Charleston County, S. C. The bird had an injured left foot and allowed our approach to within fifty yards where we studied it through 8 x glasses. There was a Black-bellied Plover (*Squatarola squatarola*) about twenty-five yards beyond it, both easily seen at one time in the field of the binoculars. Comparisons were therefore made without trouble and under ideal light conditions. Curious to see just how close I could get to the bird, I walked forward deliberately, stopping at intervals. When it finally flushed, I stepped off the distance from where I stood to the bird's footprints in the soft sand and found it to be four long paces! It called once as it rose and was apparently in splendid condition except for the injured foot.—ALEXANDER SPRUNT, JR., 92 South Battery, Charleston, S. C.

**Upland Plover Nesting on a Shooting Range.**—On the afternoon of May 24, 1931, I attended a trap shoot on the grounds of the American Legion Trap and Skeet Club, four and one half miles south of Norwalk, Ohio. Upon my arrival, I immediately noticed a very disturbed pair of Upland Plover. They were alighting on the Skeet-trap houses and flying around and between them in such an excited manner that I was at once convinced that there were eggs or young in the immediate vicinity; in fact the birds kept so close that on several occasions the shooters had to hold their fire fearing the birds would get in line with the targets.

The Skeet-trap houses are only forty yards apart, and the shooting positions are on a semi-circle drawn from a point midway and directly between the houses; so it is apparent how close the birds remained to the shooters and spectators.

About four thirty p.m., while walking from one trap-house to the other to take the next shooting position, I discovered two young plover which were as yet hardly able to walk, they were about half way between the houses and directly in the center of the shooting. The little fellows were hungry and calling for food and must have been rather cold, as there was a cool wind from the northeast. During the short time the shooters and spectators were looking at the young the old birds were very close and sometimes came directly over us, almost within reach of my hand.

In spite of the fact that there were about one thousand shots fired and various noises made by the people and their automobiles during the entire afternoon, these birds continued flying near their young which seems to me a remarkable demonstration of the affection and protective instinct of parent birds.—C. B. GARDINER, 175 West Main St., Norwalk, Ohio.

**Migration Dates of Yellow-legs and Others.**—The following records as to the migration of Lesser Yellow-legs in the fall of 1930 and spring of 1931 of Madison, Wisc., may be of interest.

In 1930 the earliest fall date was July 1; the latest, October 21. In 1931, the earliest spring date was March 21; the latest, May 28. The fall migration therefore covered a period of 113 days, and the spring migration 69

days, making 182 days in all, or a full six months. It is doubtful if there is any other shore-bird, or indeed any other transient species, that consumes so large a portion of the year in passing through here.

For the Pectoral Sandpiper the corresponding dates were as follows: July 11 to October 27, 1930, a period of 109 days, and April 12 to June 4, 1931, a period of 54 days,—or 163 days in all. For the Least Sandpiper the dates were: July 11 to October 17, 1930, a period of 99 days, and April 18 to May 30, 1931, a period of 43 days,—or 142 days in all.

Some of the above dates are exceptional and it is probable that the total of days given for each of these species is close to the maximum for any one year.—JOHN S. MAIN, *Madison, Wis.*

**Another Massachusetts Record for the Marbled Godwit.**—In 'The Auk' (for January, 1930, p. 77) Mr. Ludlow Griscom reported the taking of a Marbled Godwit (*Limosa fedoa*) on Plum Island, Massachusetts, September 15, 1929. I was fortunate enough to be present at the time, but I never expected to see another in Massachusetts, as the species is now only an accidental visitor in New England, the last previous record having been made in 1924. On August 23, 1931, however, as Messrs. A. C. Bent, E. B. Church, E. O. Mellinger, and I were looking over the shore-birds on Monomoy, Chatham, Massachusetts, Mr. Bent saw a bird that at first appeared to be a curlew, fly in behind some beach grass near which a flock of Herring Gulls were resting. As we approached, we soon descried the bird standing in shallow water near the gulls and, on levelling our glasses upon it, saw to our surprise that it had the slightly upcurved bill of a godwit instead of the decurved bill that we had expected to see. By stalking it behind tall grass we got much nearer and finally watched it at leisure within thirty or forty yards while it walked up the beach and fed in the moist sand. When it flew it showed no black nor white on the tail and tail-coverts, which fact, together with its generally brown coloration, proved it to be a Marbled Godwit and not a Hudsonian. As it was a rather dark bird, it was doubtless an immature. In feeding it sometimes thrust its long bill down into the sand for its entire length. When it took its final flight, across the cove known as the Blubell Hole and out of sight, it uttered a hoarse low-pitched scream.—FRANCIS H. ALLEN, *West Roxbury, Massachusetts.*

**Northern Phalaropes and Oriole at Sea.**—On September 18, while crossing from Goteborg, Sweden to New York, I noticed a small bird on the after deck of our ship. We were some ten miles off, but in plain sight of, the Newfoundland Coast, midway between St. John and the Cape, we noticed the bird flying nervously about trying to discover some spot out of the wind. It proved to be an immature Baltimore Oriole, blown evidently far off the main line of flight. The bird at length came to roost in a secluded corner underneath one of the lifeboats close to the deck and towards evening slept with head hidden amid the feathers of the back.

Next morning we could not find it. The wind at the time was sufficiently strong to cover the sea with white caps, coming from a southwesterly direction.

Next day when off Nova Scotia well out of sight of land on three different occasions I noticed a bird rise hastily from the water close to the ship and beat off to leeward. I did not have my binoculars at hand at the time but I could note the snow-white underparts and gray above, and the rapid, sandpiper-like flight. One bird settled on the water again after a short flight, which led me to believe it and the others were phalaropes. Whenever they tried to attain any altitude, the half gale would sweep them off one way or the other so that they had to seek the surface immediately and find shelter among the hollows. The amazing fact was that any bird could survive in such a place, in real turbulent water like this.

On the afternoon of the 20th someone reported seeing a plover-like bird on the rear deck of the ship but although I searched all about I failed to find it. Part of the crew were uncovering the main hatch, causing much noise and commotion and I supposed the bird had been frightened away. But it was there all the time, hiding out of sight for on the 21st just before landing, I discovered it wandering about the deck, slightly injured and unable to fly. I readily caught it and found it to be a Northern Phalarope (*Lobipes lobatus*) in winter plumage, much exhausted. One of the stewards reported that birds similar to this one came aboard every trip this season of the year and quite often in the spring but refused to eat, even when placed with caged birds, and eventually would perish. Some water and raw meat taken forcibly revived our bird sufficiently to accompany us to Massachusetts where we hope to see it recover presently and proceed on its way once more.—AARON C. BAGG, *Holyoke, Mass.*

**The Iceland Gull in Connecticut.**—On November 26, 1926, I saw a single pure white gull among the Herring Gulls on Fairfield Beach, Fairfield, Conn. The bird looked to be about the same size as the Herring Gulls, or possibly a trifle smaller, and I took it to be an Iceland Gull (*Larus leucopterus*) in the second year plumage. Only one record of this species is reported in the 'Birds of Connecticut,' but its more frequent occurrence in neighboring states indicate that it may occur here more commonly than the records show.—ARETAS A. SAUNDERS, *Fairfield, Conn.*<sup>1</sup>

**Increase of the Roseate Tern in Connecticut.**—The Roseate Tern (*Sterna dougalli dougalli*), at the time of the publication of Sage and Bishop's 'Birds of Connecticut,' was a very rare bird in this State, no definite dates of occurrence being recorded later than 1888. With the recent increase of the Common Tern I watched for this species, but did not find it until the spring of 1929. Since then it has occurred regularly and this spring, 1931, has at times been about equal in numbers to the Common Tern.

The first occurrence I noted was on May 17, 1929, at Fairfield Beach,

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<sup>1</sup> Published with the Dwight Memorial Fund.



when I estimated the number of birds of this species seen as fifteen. I first detected the birds by the difference between their calls and those of the Common Tern, and later made out the distinctions in plumage and color of bill and feet.

These birds were observed again on May 18 and 24, 1929, and on the latter date were sitting on the beach in company with Common Terns, facing the late afternoon sun, which lighted their breasts sufficiently to make out the tinge of pink color.

In 1930 these birds had increased in numbers and occurred from May 8 to 20. In 1931 they were observed from May 7 to 24, and when they first occurred were fully as abundant as the Common Terns, though as May advanced their numbers decreased while those of the Common Tern increased. It seems probable that the increase of this species must have begun prior to 1929 but was at first overlooked. Inquiry among other observers has not disclosed, up to now, an earlier date of occurrence in this state.—ARETAS A. SAUNDERS, *Fairfield, Conn.*

**Caspian Tern in Connecticut.**—On June 27, 1931, the writer saw a Caspian Tern (*Hydroprogne caspia imperator*), in full breeding plumage on a sand flat laid bare by the tide, at Waterford, Conn.

This would seem to constitute the first known occurrence of the Caspian Tern in Connecticut (according to Forbush's 'Birds of Massachusetts'), and is particularly puzzling due to the date. I appreciate the fact that, unsupported by a specimen, the record may not be accepted,—a policy with which I am heartily in accord,—yet the bird was observed at close range, both at rest and in flight, with a good glass. All the distinguishing marks were clearly and carefully noted, as well as its great size as contrasted with the Common Terns which were near it. I am furthermore familiar with the Caspian Tern through having seen it several times on Lake Erie, where, though very rare, it is of fairly regular occurrence in the fall.—CLARK S. BEARDSLEE, *132 McKinley Ave., Kenmore, N. Y.*

**The Black Skimmer a Permanent Resident in Georgia.**—In view of recent winter records of the Black Skimmer (*Rynchops nigra nigra*) on the Georgia coast my observations on this species seem worthy of record.

From July 1930 to May, 1931, I was located in the vicinity of the Savannah River entrance, and it was possible to keep quite a close watch on the birds of the near-by beaches and mud flats. Until November large flocks of skimmers could be seen at any time, and through the winter months a few birds or a small flock were seen during some time each month.

During a rather leisurely trip through the inland route along the entire Georgia coast, going south in January, 1928, and north again in February of that year, several flocks were seen near Brunswick, Ga. and Fernandina, Fla.

In March, 1930—from the 10th to 25th—on Tybee Island, Ga., migrating flocks were seen nearly every day, about four p.m., irrespective of tide.



A single bird last spring was found in a small open space surrounded with marsh grass, and it seemed the bird was imprisoned by the tall grass which did not allow enough space for it to rise. As I picked it up carefully by the wing and tossed it into the air, it caught its balance and drifted across to a near-by sand bar, and later was gone.—IVAN R. TOMKINS, *U. S. Dredge Morgan, Savannah, Ga.*

**The Name of the East African Brown-headed Parrot.**—In his list of the types of birds in the Tring Museum (Nov. Zool. XXXI, p. 125, 1924) Dr. Hartert called attention to the fact that “. . . the African Parrot now called *Poicephalus fuscicapillus* (*Pionus fuscicapillus* Verr. et Des Murs, 1849) cannot be called by this name, because of *Pionus fuscicapillus* Wagler, 1832, which is a new name for *Psittacus spadirocephalus* Kuhl, 1820, and refers apparently to a female of a *Geoffroyus*, but it is not possible to say which form.” The next available name for the species is *Poicephalus cryptozanthus* Peters, 1854.

Recently (Proc. Acad. Nat. Sci. Phila., p. 267, 1930) I have shown that this species is divisible into three races, and since the name *cryptozanthus* applies to the South African mainland form, the bird inhabiting Zanzibar Island requires a new name. *Poicephalus hypozanthus* Peters is a nomen nudum, and as there is no other name available I propose: *Poicephalus cryptozanthus zanzibaricus* nom. nov.—W. WEDGWOOD BOWEN, *Academy of Natural Sciences, Philadelphia, Pa.*

**The Barn Owl (*Aluco alba pratincola*) at Sea.**—On November 1, 1931, while proceeding southward on the Clyde Line steamship “Cherokee,” I saw a Barn Owl (*Aluco alba pratincola*) come aboard the vessel as it was passing the Diamond Shoals Lightship. It was exactly 11 a.m. when the bird was sighted some fifty yards off the port side, flying strongly against a fresh westerly breeze. In a few moments it came aboard and alighted on the after yard supporting the wireless aerial. Standing on the boat deck I watched it with 8 x glasses and every detail of the plumage was distinct. The bird seemed to experience some difficulty in maintaining its perch in the wind and attracted considerable attention among the passengers.

Curious to see how long it would remain, I watched it closely and for twenty minutes it clung on to the yard. After that period of time the ship entered a heavy bank of grayish smoke which covered the sea for miles, caused by brush fires ashore, the vapor being carried to sea on the wind which was directly off-shore. So dense was it that it resembled a heavy fog and the whistle was set going every few seconds. At the first blast, the owl took flight, evidently frightened by the sudden sound, and disappeared at once into the haze. The position of the ship at the time was between twelve and fifteen miles from the coastline of North Carolina in the Cape Hatteras section.—ALEXANDER SPRUNT, JR., *92 South Battery, Charleston, S. C.*

**Belted Kingfisher—Fishing or Bathing?**—While observing a male Belted Kingfisher at the lake in Glen Helen, Antioch College campus, Yellow Springs, Ohio, on October 19, 1931, the writer witnessed the following behavior. The bird splashed back and forth over the water several times near the shore. Twice immediately afterward it plunged into the water and returned to its perch. These plunges were so "flattened-out" over the water as to suggest that the bird was bathing rather than fishing. The next maneuver was more complex: the Kingfisher made a "shallow" dive from its perch, apparently striking the water only with its breast and belly; then it flew a few inches above the surface toward the shore and made a second belly-wetting splash; reversing its direction it again flew low over the water and made a third and final "belly-splash," after which it returned to its perch. Each maneuver was accompanied by its rattling call. After its first "triple" plunge the bird perched for a minute or more without preening its wet plumage. Was the bird fishing, bathing or "playing"?—LOUIS B. KALTER, 535 Belmont Park N., Dayton, Ohio.

**A Red-headed Woodpecker with Incompletely Ossified Skeleton.**—On August 30, 1931, while driving along a country road near Lincoln, Nebraska, I saw a bird fluttering in a shallow ditch. It proved to be an immature male Red-headed Woodpecker (*Melanerpes erythrocephalus*), fully feathered and with considerable red on the head. It appeared to be in perfect health but, although it flapped its wings vigorously, could not fly. Knowing that a bird in such a predicament could not long escape its enemies, I decided to make a study skin of it.

Prior to skinning this bird, about an hour later, I proceeded to stretch out the wings and legs before making the incision. Upon doing so both humeri broke as did the left leg at the heel. The mouth was opened and the mandibles bent well forward of the glenoid fossae. It soon became apparent that the entire skeleton of this bird was very incompletely ossified. When manipulated the skeleton behaved much like bones that have been decalcified for microscopical sectioning. When broken the brittle snap characteristic of normal bones was not evident.

Although I have skinned hundreds of birds, including two other immature Red-headed Woodpeckers, this summer, I have never before observed such a condition, except in the case of very young fledglings. It should be emphasized, however, that this bird was not a fledgling but one that would normally have been actively on the wing for at least a month.—GEORGE E. HUDSON, Dept. of Zoology and Anatomy, University of Nebraska, Lincoln.

**The Gray Kingbird in Massachusetts.**—On Nov. 22, 1931 a party of observers was working in West Newbury, Essex County. We had barely recovered from the excitement of seeing a European Teal (see page 79) and were motoring rapidly along a country road bound for another locality, when Allen spied a bird on the telegraph wires, which Griscom thought a large flycatcher. Jamming on the brakes and tumbling hastily

out of the car, we were properly astounded to recognize a Gray Kingbird (*Tyrannus dominicensis*). The rest of the party, Messrs. C. E. Clarke and brother, George Perry, R. J. Eaton, and John H. Baker and his brother, Dr. Myles Baker, came up a moment later, and we all had a perfect study of the kingbird, easily noting all the diagnostic characters. The day was phenomenally warm, and the kingbird was busy hawking for insects, but appeared tame and unsuspicious.

It seemed highly desirable to collect the specimen, but the party was weaponless. Griscom accordingly walked to the nearest house to borrow a shotgun. The owner was cordial and showed a strong spirit of co-operation, but had lent his gun to the owner of the next house. Proceeding there, Griscom obtained the gun, a double-barreled 12 gauge shotgun, but the available ammunition consisted of two No. 2 shells. Armed with this extremely unfavorable equipment, Griscom returned to his party, only to find that the kingbird had made a long flight across country, but Eaton had fortunately lined it up accurately, and it was finally found in an apple tree in somebody's back lot. Griscom was devoid of experience in collecting small land birds with No. 2 shot. The first shot damaged the apple tree to no purpose, but the bird was secured comparatively undamaged with the second. The sudden outburst of heavy artillery in their orchard gave justifiable annoyance to the occupants of the house, but when the object and results were explained to them with proper apologies, they were so good as to overlook our trespass.

The specimen proved to be an adult female, and has been presented to the Peabody Museum at Salem, where it will be mounted and put on exhibition. It is definitely the typical subspecies. The date is the height of the fall migration of the species from the West Indies to South America. A low pressure area which blanketed eastern New England in rain, fog, and mist for five days during the preceding week may have been attended by strong winds farther south. The only other record for New England is based on a bird shot in 1869, also in Essex Co., Mass., and preserved in the Boston Society of Natural History, the latter fact unrecorded by Forbush.—FRANCIS H. ALLEN and LUDLOW GRISCOM, *Museum of Comparative Zoology, Cambridge, Mass.*

**Status of the Arkansas Kingbird (*Tyrannus verticalis*) in Maryland.**—Investigation of this subject has been prompted by the collection of a specimen of this species near Denton, Maryland, on September 28, 1931, by S. E. Perkins, III.

On the above date Mr. Perkins wrote me in part, as follows: "Today while returning from Preston in this county, I observed a large flycatcher making beautiful curving sallies from a fence after insects. In general it looked like a kingbird or a mocker but was clearly neither. A closer inspection made me think it an Arkansas Kingbird. I returned here (Denton) and verified my suspicions. Returned to the field with Mr. Virgil Moore and his son Charles, hunted it up, collected it, and I send the skin under

separate cover for your inspection." The specimen was duly received and Mr. Perkins's determination corroborated.

The bird is evidently an immature, as the feathers have the "woolly" texture characteristic of many birds in juvenal plumage, and moreover, it lacks all sign of the concealed occipital orange patch. The specimen is preserved in the collections of the Biological Survey.

So far as I am able to ascertain, the only other record for this species, credited to Maryland, is the specimen obtained fresh in the markets at Washington, D. C., on September 30, 1874, by Pierre Louis Jouy and presented by him to the Smithsonian Institution.<sup>1</sup> This species was subsequently included by Jouy in his 'Catalogue of the Birds of the District of Columbia.'<sup>2</sup> As originally published the catalogue merely listed the different species without comment, although the accidentals were marked with an asterisk. This paper was, however, reprinted by Mr. Jouy and issued separately, repaged and "with Remarks on the Birds of the District, by Drs. Coues and Prentiss." In these remarks the statement is made (p. 11) that the specimen of *T. verticalis* "was not known to have been secured in the District, but was certainly shot in the immediate vicinity, as Mr. Jouy found it fresh in market, on the 30th of September, 1874. The specimen is preserved in the Smithsonian Institution." It will be observed that no attempt is made to state the probability of collection in either Maryland or Virginia, although both states certainly are "in the immediate vicinity." Nevertheless, in 'Avifauna Columbiana' (2nd ed., p. 76, 1883) Coues and Prentiss refer to this bird and state "In point of fact, it was not actually got in the District, but in some adjoining portion of Maryland." This appears to be the first statement that the bird in question was secured in Maryland, and while it is not improbable that Mr. Jouy obtained this information from the market dealer, no evidence is presented to indicate such authority. The record has so stood to the present day being quoted in the several lists of the birds of the Washington region and in the 'Birds of Maryland,' by F. C. Kirkwood (p. 316). The specimen is still contained in the collections of the National Museum, and is labeled number 67396, ♂, Maryland, Sept. 30, '74. The catalogue entry adds "juv." to the record and the specimen is in fact, an immature, almost exactly like the Perkins example here recorded.

From the information obtained it would appear that the locality of collection for the Jouy specimen is based chiefly upon the probability that it was taken in Maryland rather than in Virginia. Nevertheless, the status of the species in Maryland is satisfactorily established by the specimen obtained by Mr. Perkins. In this connection it is of interest that the species is also entitled to a place on the list of Virginia birds, as a specimen collected September 19, 1919, on Wallops Island, Accomac County, Vir-

<sup>1</sup> Annual Report of the Board of Regents of the Smithsonian Institution for the year 1874, p. 32.

<sup>2</sup> Field and Forest, vol. II, no. 10, p. 178, April, 1877.

ginia, by the late Dr. B. H. Warren, was so identified at the Biological Survey. Curiously enough, all three specimens here mentioned were collected in September, and at least two of them were birds of the year.—FREDERICK C. LINCOLN, *Biological Survey, Washington, D. C.*

**Late Nesting of the House Wren at Lexington, Virginia.**—On Sept. 1, 1931, after returning from a vacation trip, I discovered a House Wren (*Troglodytes aedon aedon*) carrying food into a box at my front porch commonly used by them. On investigating I found three young in the nest apparently about four days old. The development of the brood was normal, and they left the nest early on the morning of September 12. Apparently only one adult was taking care of them. In answer to some questions Mr. S. Charles Kendeigh writes me as follows: "September records of nesting House Wrens are quite exceptional. In looking over some of the back records of the Baldwin Bird Research Laboratory, I could find only one record of nestling birds in September. That was of a brood of four which were fourteen days old on September 1. Unfortunately, I was compelled to leave the laboratory on this date and so do not know exactly when they left, but it was probably within the next day or two." That was in 1927.—J. J. MURRAY, *Lexington, Va.*

**Carolina Wren roosting in Hornet's Nest.**—On October 30, 1931 a resident of Yellow Springs, Ohio, related the following incident: A week previously she had heard a Carolina Wren singing in the yard around her home. Wishing to coax the bird to winter near-by, she hung a carpet-covered basket just under the eaves of a door-stoop roof on the north side of the house. Much to her surprise the wren refused the use of the improvised roost and, instead, entered the rear porch of the home via the open lattice work. As a roosting place the bird chose the interior of a large old hornets' nest which the owner of the home had hung in a dark corner of the porch. The bird's entrance to the hornets' nest was through a hole on the upper side of the structure.

This may be an entirely new and individualistic adaptation of the Carolina Wren to man's civilization, or it may indicate one type of its normal winter roosting place.—LOUIS B. KALTER, *535 Belmont Park, N., Dayton, Ohio.*

**Nest Construction of the Blue-gray Gnatcatcher.**—On May 15, 1931, while crossing a wood lot I came upon two Blue-gray Gnatcatchers (*Poliophtila caerulea caerulea*) finishing a nest which they had constructed on a horizontal limb of an oak tree twenty feet from the ground and five feet from the main trunk and directly under another limb. The apparent intention of nature was thwarted by the placing of this lichen-covered nest in a lichen-less tree and thereby making it very conspicuous. An hour's observation disclosed the fact that both birds took part in the completion of the nest although one of them visited it more frequently than the other. Both took the same particular pains and worked in the same way. They



flew to the bud ends of the oak where they obtained material which was apparently used in fastening and cementing the lichens. When they flew back to the nest each turned around in it two or three times as if to round and smooth the cavity. The bird would then reach outside and with great care place the material between the lichens. They always flew directly to the bud ends and on to the nest.—MYRA KATIE ROADS, 463 Vine St., Hillsboro, Ohio.

**Cedar Waxwing (*Bombycilla cedrorum*) Breeding in Utah.**—This bird, a common visitor to the West in the late fall, was found breeding in the City Hall Park at Ogden, Utah. Reports of it breeding in the mountains of Arizona, New Mexico, Colorado and in the vicinity of Fort Sherman, Idaho, have been recorded.

On July 29, 1931, the adult bird and four young were observed; the young were just learning to fly and were still being fed by the female bird. They were very tame and seemed little concerned with the multitude of people that passed through the park. Their food consisted of the little red berries from the barberry plant.—GORDON Y. CROFT, 2115 C. St. N. W. No. 405, Washington, D. C.

**Prothonotary Warblers nesting near Buffalo, N. Y.**—On May 17, 1931, members of the Buffalo Ornithological Society made a census of the birds in the vicinity of Buffalo. On that occasion a colony of at least eight Prothonotary Warblers was found on the property of Martin Schmitt in Oak Orchard Swamp, southeast of Medina and at the extreme northern edge of Genesee County. At this spot Oak Orchard Creek is bordered with partially submerged willows, making an ideal nesting site for these birds, and we were hopeful that they would remain to breed. On May 31, Mr. and Mrs. Harlan E. Eckler of the society found a nest containing five eggs, in a dead willow stub. The following day they found a second nest with six eggs, in a knot-hole of a live willow, and on June 2 a third, containing seven eggs, in another live willow. Mr. and Mrs. Eckler spent two weeks at the swamp studying the bird life there, being of course particularly interested in this colony. The third nest was later found to have been disturbed, and the birds abandoned it in favor of another site, where they successfully reared five young. In all, five nests belonging to four pairs of birds were eventually located. The fifth was found when Mr. Eckler, losing his balance while wading through the water, placed his hand for support on a gnarled willow, and the bird flew out between his fingers. We are of the opinion that still another pair had a nest at a considerable distance from the edge of the stream, but this was not confirmed.

These observations would seem definitely to extend the breeding range of the Prothonotary Warbler considerably to the northward.—CLARK S. BEARDSLEE, 132 McKinley Ave., Kenmore, N. Y.

**Prothonotary Warbler in Wyoming.**—On September 10, 1931, my wife and I found a Prothonotary Warbler (*Protonotaria citrea*) among the



buildings of the automobile camp at Mammoth Hot Springs, Yellowstone National Park. Well aware that the bird was far out of its normal range, I was careful to make certain of the identification, which was easy, as the wanderer hopped about in grass and low shrubbery, most of the time in full view and within twenty feet or so, for as long as I cared to watch it, so that, using 10x prism binoculars and with the afternoon sun behind me, I could note the bird's form, bill, and coloration almost as though it were in my hand—rich yellow head and breast, olive-green back and rump, white belly, and externally blue-gray wings and tail (the latter was not spread so as to show the white). I saw even the slight olive-green veiling of the yellow crown, characteristic of the winter plumage.—CHARLES H. ROGERS, *Princeton Museum of Zoölogy, Princeton, New Jersey.*

**Habits of the Blackburnian Warbler in Pelham, Massachusetts.**—Since *Dendroica fusca* normally lives in deep woods, it was a surprise to discover from the roof of my mother's summer home on June 24, 1931, a pair carrying food to a nest 18 feet from the ground near the top of a cedar among comparatively open, young growth, 40 yards south of the house and 150 yards to the east of the great pines and hemlocks where the male habitually sang. On only three occasions did I hear him singing anywhere near his nest—on June 13, 24 and 25. From 8.00 to 8.45 A.M. the male brought three meals and the female eight. An expedition was then made to the vicinity of the nest, much to the distress of the female, who, on my daughter's climbing the tree next to the cedar, assumed a peculiar attitude, her tail outspread and dropped at right angles to her body, her wings flipping rapidly and occasionally held stiffly up or down. The excitement caused the young to jump out on the ground where they could not be found. The male did not appear until 9.07—42 minutes after his last visit; he went to the nest, but finding it empty ate the insects himself. At 9.30 and 9.42 I saw him peering down from the tops of the cedars in the nest region; at 9.45 I first heard the food call of the young *zee-zee zee-zee*; the male shortly arrived with food and after some searching located one of them, returning to feed again at 9.53.

A second visit to the vicinity of the young a half hour later elicited a repetition of the "broken-wing" ruse from the female, but her mate merely chipped and soon departed. The young called persistently at the rate of 73 to 81 double calls a minute. From a distance I watched the mother bring food to one of them. It squeaked as I took it in my hand; the female chipped rapidly but gave no other demonstration. I banded it and let it hop away. The mother's chipping kept the young silent for some time, but finally it called despite my proximity. The scolding of parents often seems to us foolish behavior for it betrays the fact of a nearby nest; however, at this stage it is of distinct value, since it warns the young to silence.

Young recently out of the nest have been found in this region, July 16, 1931 and August 1, 1925. On the latter occasion the female gave the same form of demonstration as did this female, while the male confined himself to chipping.

The Blackburnian Warbler is a most persistent singer. By far the most common of his songs in this vicinity (A) might be written *zee zee zee zee zip*, the accent being on the last syllable which is slightly lower than the rest. The length of this simple song is one second; it is given at the rate of 6 to 8 songs a minute, intervals between the beginnings of songs ranging from 7.3 to 9 seconds during uninterrupted singing.

The next most popular song, (B) is louder and more vehement and lasts 1.5 seconds. It might be written *tral tral tral tral zeeee*, the last note being higher than the others. It is given at the rate of 6 to 7 songs a minute, intervals ranging from 7 to 10.2 seconds. When singing this song the bird sometimes introduces chips between songs, as the Black-throated Green often does with one of his songs and the Magnolia Warbler rarely. A bird on July 5 introduced two chips before each song, but later gave a continuous performance, the record for one minute being as follows ("c" denoting a chip, "B" a song): ccBcccBccccccBccccBcccBcccBcccB—7 songs and 24 chips. These chips are uttered less rapidly than in the case of the Black-throated Green Warbler, with which species I once counted 73 chips besides seven songs in one minute.

The third song is rather rare; it reaches the length of two seconds and is given at intervals of 10 to 14 seconds. My rendering of it is: *chee-chee-chee-chee chee-chee-chee-chee see see see*, the middle portion being at the lowest pitch, and the last the highest. Sometimes chips are introduced in series of this song.

In 1931 two of these warblers were singing July 22, although two others had stopped earlier in the month. On July 25 on a long walk through the western woods not a single song was heard from this species. My latest record for 1928 was July 24.—MARGARET M. NICE, *Pelham, Mass.*

**A Possible Case of Red-wing Polygamy.**—During the past season (1931) due to continued drought in this section, the Thick-billed Red-wings (*Agelaius phoeniceus fortis*) nested commonly in groves and bushes often several rods from the usual low lying grounds.

In studying one case of this change in habitat a possible case of Red-wing polygamy was noted. The two nests concerned were at a distance of 47 paces from each other, one in a lilac bush, the other in a plum thicket. On June 23 the female in one nest was brooding closely as the four eggs were hatching while the second held three young still blind. As I examined the nests in turn the same male dashed boldly against my hat and back doing his best to drive me off. I then went purposely from nest to nest several times with the same male following in a great rage. During two hours of close watching no other males appeared in the vicinity and in subsequent visits I also saw but one male in the territory.

Since it could not be definitely proven that the one male noted on the several occasions was the same individual, the explanation offered is merely a suggestion.—ARCHIBALD JOHNSON, *Route 2, Jamestown, N. Dak.*

**The Iris of the Florida Boat-tailed Grackle.**—The articles in recent numbers of 'The Auk' in reply to my query in regard to the color of the iris of the Boat-tailed Grackle (*Cassidix mexicanus major*) require some further explanation on my part.

Mr. Sprunt and Mr. Pennock both consider that I am mistaken in my observations as to the color being dark brown, especially in the adult male in breeding condition.

Dr. Wetmore in a personal letter suggests that I have been misled by Ridgway's statements, both in his 'Manual' and in his 'Birds of North and Middle America' that the iris is dark brown in this form. Ridgway undoubtedly recorded this from his personal experience in southern Florida.

My records were made in a positive manner, the labels of all specimens taken have the color of the soft parts of each individual on the reverse side. The small series collected by me, all taken in Palm Beach County, Florida, have the iris recorded as "dark brown" or "sepia" in every specimen, this series includes young male, young female, adult female and adult male. Of the latter three specimens in high plumage taken from January 15 to February 19 all have the iris recorded as "sepia" this means a dark, almost blackish brown. I saw no birds of this species in Florida with eyes of any light color. After I wrote the article in question I remembered that in Bonaparte's plate (drawn, by the way, by Audubon) the iris was figured as yellow.

Also Dr. C. W. Townsend's article had not been published when I wrote mine; on reading his I was impressed with the fact that we had both come to the same conclusion as to the specific distinctness of the two so-called subspecies without any collusion.

The late Louis Fuertes was with me in Florida and he also only knew the Boat-tail as a brown-eyed bird. His figures in 'Bird Lore' depict a lighter brown iris than my records show and also his Great-tailed Grackles are made with the iris of the same color. His marvelous memory must have been at fault here.

As to a seasonal change in the color of the eyes, I greatly doubt the possibility of an almost black iris changing to straw color, but there may be individual variants as is the case in *Psaltiriparus*. Such variation is extremely rare in Passerines.

The late Mr. R. D. Camp of Brownsville, Texas, who had a wide field experience with Boat-tailed and Great-tailed Grackles from Florida to southern Texas considered *major* and *mexicanus* to be distinct species; he contended that where their ranges overlapped, I think he said at Aransas Pass, Texas, the two could easily be separated by their respective voices and actions.

I must accept Dr. Townsend's conviction as to the plication of the tail although my observations on this were made at exactly corresponding times in each species, the months of January and February.

The existing situation can be summed up as follows. In southern

Florida *major* has the iris brown in both sexes, cf. Ridgway, Maynard, Fuertes, Townsend, Brooks.

Further north *major* has a pale yellow or straw-colored iris, notably in South Carolina.

*C. m. mexicanus* in Southern Texas always has a straw colored iris, except probably in the extreme juvenile.

What color are the irides of birds occurring in Louisiana and Northern Texas?

In deciding the question of specific separation Dr. Townsend's records of the great dissimilarity of the courting actions must carry great weight.

Is it possible that the birds from South Carolina to Southern Texas are conspecific while the Southern Florida bird is distinct?

The implication of polygamy in Mr. Pennock's concluding paragraph also calls for investigation. Seraglios are always interesting. Is it possible that we have at our very doors an Icterine with the fascinating habits of an *Oropendola*?—ALLAN BROOKS, *Ohanagan Landing, British Columbia.*

**Color of the Eyes of the Boat-tailed Grackles in Florida.**—In reference to the color of the iris in the Boat-tailed Grackle recently discussed in 'The Auk' I would say that from personal field observations of the male and female about Orlando, the Kissimmee Prairie, Merritt's Island, and various parts of central Florida, I have found that the eyes of this bird are quite dark and show no signs of yellow or white irides at very close range.

As late as October 4, 1931, while on a visit to Mosquito Lagoon to the Pelican Rookery on an island on this body of water, I had the opportunity of viewing a male Boat-tailed Grackle at close range through a powerful field glass and the eyes showed absolutely no traces of yellow or white, but appeared to be of a very dark brown or black color. My companion, Mr. Hallman of St. Augustine, Florida was asked to verify my conclusions and stated emphatically that he could discern no trace of yellow and that the color certainly was dark brown. Please bear in mind that this was during the winter. I could not say whether or not the bird was one of the year or an old adult male, but it did have the full plumage.

I have been familiar with the bird for over thirty years and have never noted any yellow in the iris of either males or females of this species and have had ample and most excellent opportunities to observe them at close range. I have not killed any of the birds to make closer note of the colors but I most certainly would have noticed any yellow coloring in the eyes had there been any present.

From what I can gather from the controversy there is a difference in the eye-color in different parts of the country, and if both Pennock and Townsend are correct about the Charlotte County birds it occurs in the same district, and during the same time of the year, which would either mean that there are two species or that the age of the bird is responsible. However, this does not satisfactorily explain why the Charleston, S. C., birds all have white or yellow eyes. Perhaps a sub-specific separation is necessary.—DONALD J. NICHOLSON, *Orlando, Florida.*

**Color of the Iris in the Boat-tailed Grackle.**—In discussing the discrepancies in observations on the color of the iris in the Boat-tailed Grackle in the October 'Auk' Dr. Townsend wonders whether there may be a seasonal change in the color of the irides while Mr. Pennock offers the suggestion that Major Brooks and others have made their observations on females and immature males, in which the irides are dark brown. Personally, the writer inclines toward Mr. Pennock's view of the case. Nevertheless, it is not easy to understand why, even in the short study of the bird, the adult males would fail to make an appearance, for they are just as much in evidence as are the immature males and females. This is the writer's experience at least. In regard to a seasonal change, the writer can state positively that no such thing occurs along the South Carolina coastal region. Adult males of *C. m. major* have yellow, or yellowish, irides throughout the entire year, of this, there can be no doubt at all. This being so, it is hardly reasonable to suppose that such a change exists in Florida, or anywhere else in the range of the bird. The writer can only reiterate his own experience with this bird since boyhood days, and that he has yet to see an adult male which has brown irides. The color is invariably yellowish in all of that sex seen from Wilmington, North Carolina to Indian River City, Florida.—ALEXANDER SPRUNT, JR., 92 South Battery, Charleston, S. C.

**Color of the Iris in Grackles.**—Recent issues of 'The Auk,' have contained various opinions regarding the color of the iris of the Boat-tailed Grackle (*Cassidix mexicanus major*). While not familiar with this species in life, the writers, for the past ten years, have banded and handled in Pennsylvania, New Jersey and Massachusetts, several hundred Grackles, (*Quiscalus q. quiscula* and *Quiscalus q. aeneus*), approximately eighty per cent of which have been immature birds.

We have noted with interest the variations in the color of the eyes of these young birds, and have made careful records of them. Invariably the youngest birds (age determined by size, lack of black in plumage, character of feathers, etc.)—possess a dark brown iris. With the acquisition of black to the feathers, the iris becomes correspondingly paler in shade. Late summer immatures often have eyes of grayish green. This color presumably precedes the straw yellow eye which we have always found in adult birds. Never have we handled an immature grackle with yellow eyes, and the few immatures with brown eyes (when banded) which "returned" to the traps at subsequent dates, possessed yellow eyes when recaptured.

It seems reasonable to suppose that the above facts might pertain also to *Cassidix mexicanus major*, a close relative of the species mentioned above.—MABEL AND JOHN A. GILLESPIE, Glenolden, Pa.

**The Dwarf Cowbird (*Molothrus bonariensis minimus*) in St. Lucia.**—On July 5, 1931, in the Aux Coin Swamp near Vieux Fort, at the extreme southern end of St. Lucia, I observed at close range a singing



male and two female *Molothrus bonariensis minimus* (Dalmas). A succession of heavy showers was occurring, and the few cartridges I had with me were so wet and swollen that it was impossible to collect the birds. This was much to my regret, as it is apparently the first time that the species has been recorded from St. Lucia. However, its occurrence is not surprising, as it seems to be rapidly extending its range in the West Indies. Originally a resident of South America and Trinidad, within recent years it has invaded Grenada, where the exact date of its first occurrence is not recorded; then the Grenadines, where according to Wells (Auk, 1902, p. 347), it was first seen on Carriacou in June, 1899; and then Barbados where Wood (Auk, 1923, p. 128) states on the authority of Mr. H. P. Bascom of Bridgetown, Barbados, that it was first seen in 1916.—STUART T. DANFORTH, *College of Agriculture and Mechanic Arts, Mayagüez, Puerto Rico.*

**Occurrence of the Eastern Savannah Sparrow in West Virginia and Maryland in Summer.**—During the course of investigations into wild life relationships under the McSweeney-McNary Act, I spent two weeks this past June in West Virginia and was rather interested to find the Savannah Sparrow (*Passerculus sandwichensis savanna*), a common summer resident both in the northeastern corner of this state and in the adjoining part of Maryland. On June 20, while eating lunch at the edge of the swamp in the Glade at Cranesville, Preston County, W. Va., I heard the first bird singing in an open field close by. Being unfamiliar with the song, I at first thought that a Grasshopper Sparrow had developed a little originality in expressing itself, but this idea was dispelled on collecting the bird. Later in the day I heard others at frequent intervals in the open fields and pastures about Cranesville and at Terra, Alta, females being seen at the latter spot carrying food for young that apparently were hardly out of the nest. The following day I was sufficiently interested in the status of this sparrow here to search more or less thoroughly the open fields about Oakland, Garrett County, Maryland, approximately ten miles east of Terra Alta, and I found my suspicions justified when few fields proved to be without at least one pair of these birds. This is, I believe, the first record for the occurrence of this species in West Virginia during the summer months.—THOS. D. BURLEIGH, *U. S. Biological Survey, Appalachian Forest Experiment Station, Asheville, North Carolina.*

**The First Eggs of Scott's Seaside Sparrow.**—Twenty-one years ago this last spring I made my first attempt to find a nest of Scott's Seaside Sparrow. I had just made the acquaintance of the veteran ornithologist R. D. Hoyt, of Clearwater, Florida, and in checking over with him the desirable nests yet to be found he spoke very enthusiastically about Scott's Sparrow. It seems that when Mr. Scott was collecting in Florida many years before he had given him the exact location of the marsh in which the type specimen had been taken. Hoyt and I made a trip in May, 1910, to the marsh near Tarpon Springs, and after many hours of hard



wading and tramping among needle grass we saw only one Seaside Sparrow and no sign of any nesting. This trip somewhat cooled my ardor for the bird and it was not until 1914, after I had been successful in taking the type sets of the Dusky Seaside Sparrow, and Mr. Hoyt kept referring to Scott's Sparrow almost every time I saw him, that in the spring of 1915 and 1916 I made five or six trips to the marshes around Tarpon Springs. On only two occasions did I even see a bird, never a pair. About three years ago Mr. A. H. Howell visited me and we spoke of the bird and he told me the location of a marsh about ten miles north of the Tarpon Springs marsh in which he had seen many pairs of Scott's Seaside Sparrow. After obtaining this information I made two trips to the place and was successful in finding one pair, but diligent hunting failed to locate any nests. This year (1931) I made five trips and found plenty of birds but no nests.

It is no easy matter to find a small Sparrow's nest in a marsh of at least ten thousand acres—a marsh composed of needle grass, bunch grass, and millions of mangrove bushes, and many bayous and tidewater ditches crossing it that require wading sometimes up to one's armpits. The needle grass is higher than one's head in most places and with the summer sun beating down, it takes a true collector's spirit to prosecute the search. I had previously hunted the northern part of the marsh twice this year and found only scattering pairs of the sparrows; but with a young friend we decided on June 1 to hunt the south end. After wading a couple of miles we came to a place where there were sparrows in sight, not many, but one or more could be seen and heard almost all the time. To my companion goes the honor of finding the first nest with eggs. However, after we saw how the birds nested it was not hard to find them and we secured three nests with eggs, all within a day or two of hatching and possibly a dozen in all that had been used or contained young. The first nest found was two feet up in a lone tuft of needle and bunch grass on the edge of a drift of grass and trash washed up by the water, possibly during our last hurricane two years ago. The nest was composed of dry, paper-like seaweed with a lining of fine dry grass blades and stems. There were a few stems of bunch grass also in its foundation. The nest stood 150 feet back from the edge of the Gulf of Mexico. Eggs were within a day of hatching, evidently a second set.—OSCAR E. BAYNARD, *Plant City, Fla.*

**Eastern Lark Sparrow Breeding in Central Pennsylvania.**—A Lark Sparrow (*Chondestes grammacus grammacus*) was found June 27, 1931 nesting eight miles south of State College, Pa., by Miss Farida Willey, of the American Museum of Natural History. The nest, which contained one fledgling and three eggs, was located on the ground in a grassy field among the mountains. A photograph was secured of a parent bird by George T. Hastings, Editor of 'Torreya.' The A. O. U. 'Check-List' states that this bird breeds eastward to extreme western Pennsylvania. State College is in the center of the state.—MERRILL WOOD, *Harrisburg, Pa.*

**A Junco Junket.**—On page 420 of the July, 1928, 'Auk' there is an interesting note, taken from 'British Birds,'<sup>1</sup> which relates the fact that three Greenfinches made the passage of the North Atlantic from Southampton to Newfoundland, on the "S. S. Alaunia" in October, 1927. Less remarkable but equally interesting, was a party of Slate-colored Juncos that traveled as deck passengers aboard a little Danish tramp from New York to the Virgin Islands, a distance of 1478 miles, in November, 1928.

We had sailed from an East River pier on the evening of November 3, but the weather was so thick that we were forced a little later to anchor in Ambrose Channel. There we lay with decks dripping, the whistle buoys wailing through the fog like so many disconsolate bulls, until nearly noon of the next day. Then the mists lifted a bit, and a steady stream of steamers, including our own, put to sea.

The following day (November 5) when I came on deck we were in the clear bracing air of the open Atlantic, about 140 miles off Cape Charles, and I was surprised to find that two dozen juncos, two Song Sparrows, a Chipping Sparrow, a White-throated Sparrow, a Goldfinch, a larger finch that may have been a female or immature Dickcissel, and two Golden-crowned Kinglets had taken passage with us. The juncos seemed to be interested in some flour spilled on the deck, and allowed a close approach. As they showed no disposition to leave the ship, I augmented their food supply with bread crumbs scattered on a hatch cover, and brought my Graflex into action. But, lest some fellow photographer be tempted to err in like manner, be it said that focussing a reflecting camera aboard a plunging ship is not an exercise recommended for landlubbers, especially just after a breakfast of uncertain tenure!

On the morning of November 6, only about half of the juncos and the lone White-throated Sparrow were to be found. The noon position was 34° 19' N., 71° 23' W.

Only four juncos remained with us on November 8, and a Grasshopper Sparrow had appeared in place of the White-throat. A Great Blue Heron was seen in the morning about 400 miles northeast of San Salvador Island, and appeared again very near the ship in the afternoon, but did not alight on either occasion. The noon position was 27° 58' N., 68° 42' W., and the weather continued fine.

On November 9 four juncos were again counted, but it is evident that a fifth must have been hidden somewhere, because next day although two were found dead on deck in the morning, at sunset there were still three live ones aboard.

November 11 was marked by a change in the weather. There was a stiff breeze, the sky became increasingly cloudy, and there were showers in the afternoon. Porto Rico was in sight most of the morning. A lone junco was on deck at 8:30 a.m. At 6.45 p.m. the ship docked at St. Thomas, but the solitary junco remained on board even after the cargo booms were rigged up.

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<sup>1</sup> Alford, Charles E., 'British Birds,' Vol. XXI, p. 282, April, 1928.

When we sailed at noon on the following day (November 12) for St. Croix I was surprised to see that the junco, forlorn and much bedraggled, was still on the ship. We dropped anchor off Frederiksted, just after a rain, at 5 o'clock that afternoon, but because of my concern to get ashore I forgot to look for the bird. It was not again seen.

In view of the fact that the junco has not been recorded in the West Indies—not even in Cuba nor the Bahamas, it seems strange that these ill-fated birds should have allowed themselves to be carried so far out of their course. Stranger still that they should have elected to remain with the ship while the band of which they were a part continued its migration. Can it be that gratuitous food and free transportation tempted them to go on a "junket"?—ERNEST G. HOLT, 312 Bell Building, Montgomery, Ala.

**Lincoln's Sparrow Again in North Carolina.**—On September 17, 1931, I saw and identified beyond question, two specimens of Lincoln's Sparrow (*Melospiza l. lincolni*) in the North Fork Valley, Buncombe County, North Carolina. Though there are but two specimens recorded from that state to date, as far as the writer is aware, and though my birds were not secured, the circumstances surrounding my observation were so positive as to leave no doubt as to their correct identification.

They were seen in low bushes, near the banks of North Fork Creek, about one half-mile to the north of State Highway No. 10; midway between the towns of Black Mountain and Swannanoa. The sun was behind me and quite brilliant; the birds were about thirty feet away and I watched them both with the naked eye and through 8 x Zeiss glasses. The cream-buff band was plainly apparent. Both uttered short "chips" frequently and were in sight for several minutes.

The first bird of this species to be recorded from North Carolina was taken by Cairns on the French Broad River, Buncombe County, on May 6, 1893 (Birds of North Carolina, Pearson and Brimley, page 249). The second was secured by A. T. Wayne at Morganton, Burke County, on May 14, 1914 (Auk, XXXI, page 542). Wayne says of this species that it is "evidently a regular migrant through the Piedmont region of North as well as South Carolina, but as yet there is no record from South Carolina."—ALEXANDER SPRUNT, JR., 92 South Battery, Charleston, S. C.

**Three Unusual Records for Ontario.**—While on Bruce Peninsula, Ontario, from July 24 to August 1, 1931, three unusual summer records were obtained which should be supplemented by further observation.

*Falco columbarius columbarius.* **EASTERN PIGEON HAWK.**—On July 26, Edgar L. Stephenson and I were walking along the cliff at Lion's Head, when a bird of this species flew out from a niche in the cliff a few feet below us, giving us an admirable opportunity to study it in flight. Mr. W. E. Saunders, of London, Ontario, believes that this is the southernmost summer record for this species in Canada.

*Rallus elegans elegans.* **KING RAIL.**—On July 31, at Crane Lake, a bird

of this species walked out from between the reeds on a limestone mud flat, and paraded before me, calling loudly, at a distance of about eighty or ninety feet, as I watched it through 8 x glasses.

*Melospiza lincolni lincolni*. LINCOLN'S SPARROW.—On July 28, at Miller Lake, I observed an individual of this species at a distance of twenty feet in good light. According to Mr. Saunders, this constitutes the second summer record for the species on the peninsula.—WILLIAM C. BAKER, 223 W. Pershing St., Salem, Ohio.

**Notes from the Connecticut Valley of Massachusetts.**—*Gavia immer immer*. COMMON LOON.—On May 17, 1930, a loon flew over the Smith College Campus at Northampton, heading northwestward. On May 24, 1931, one was swimming on Ashley Pond, southwest of Holyoke. These late-spring dates suggest breeding somewhere near. On October 12, 1931, a loon was seen on the river at Longmeadow, still in breeding plumage.

*Sterna paradisaea*. ARCTIC TERN(?).—Terns are accidental in the Valley. On April 11, 1931, three were seen at Ashley Pond, both flying and swimming. Their species, not determinable by observation, was deduced from the early date, since Common and Roseate Terns are not due on the Massachusetts coast until May 1, but Arctic Terns come a month sooner.

*Dafila acuta tzitzihoo*. AMERICAN PINTAIL.—During October, 1931, at least nine Pintails were observed at Northampton, on four different days.

*Glaucionetta clangula americana*. AMERICAN GOLDEN-EYE.—Two females were seen at Ashley Pond, April 1, 1931.

*Gallinula chloropus cachinnans*. FLORIDA GALLINULE.—An immature and unwary bird was watched at Northampton from October 2 to October 7, 1931; and at the same pond another or the same was surprisingly seen again October 20.

*Ereunetes pusillus*. SEMIPALMATED SANDPIPER.—One was closely approached and absolutely identified at Northampton, September 1, 1931.

*Bartramia longicauda*. UPLAND PLOVER.—The field in northwestern Hadley where a pair of these birds have nested in recent years was deserted in 1931 for another a short distance away. Apparently only two young were reared.

*Pluvialis dominica dominica*. AMERICAN GOLDEN PLOVER.—One was seen, August 31, 1931, on the Hadley bank of the river, in a flock of seven Killdeer, and identified by its marked differences from them. On the same day, incidentally, four were seen by C. W. Vibert at South Windsor, Conn.,—a number augmented to five on the following day, as though the Hadley bird had gone down and joined its fellows.

*Bonasa umbellus umbellus*. EASTERN RUFFED GROUSE.—At West Chesterfield on June 5, 1931, a little partridge family was discovered spending the heat of the day under a low bridge (over a small brook) made of great slabs of slate. One chick wedged himself tightly into a chink and stayed motionless, but another (the only other one visible) walked peeping away from the

observer, through the tunnel, and fell into a pool at the farther end, from which it was fished and "brooded" and dried by human hands, while its mother came within arm's length, alternately bristling and defiant, or abject and scuttling.

*Coccyzus a. americanus*. YELLOW-BILLED CUCKOO.—An extremely rare bird hereabouts in recent years, one was noted at Northampton on the unusually late date, October 6, 1931. It was a young bird, lacking the strong black-and-white marks in the tail, but was identified by the yellow mandible, tawny wing-patch, and lack of red around the eye.

*Coccyzus erythrophthalmus*. BLACK-BILLED CUCKOO.—Though noted regularly at Northampton in the five years 1924-28, this species has not since been found there. Two were seen at Longmeadow on August 6, 1931.

*Spinus pinus pinus*. NORTHERN PINE SISKIN.—It seems curious that this bird should be almost exclusively a May migrant here. It is often common in the first third of May, and has been seen as late as May 28, 1926.

*Passerherbulus henslowi susurrans*. EASTERN HENSLOW'S SPARROW.—A breeding colony was discovered this summer (1931) near Northampton.

*Hirundo erythrogaster*. BARN-SWALLOW.—On the same day, April 11, 1931, as the terns appeared at Ashley Pond, two remarkably early Barn Swallows were seen there. The very strong southwest wind that was blowing may have had something to do with the presence of both species.

*Stelgidopteryx ruficollis serripennis*. ROUGH-WINGED SWALLOW.—These are increasing in this region. A pair began to excavate a hole between May 6 and May 13, 1931, but gave up. Another pair was later seen at a small Bank Swallow colony, apparently trying to oust the owners of one hole there.

*Lanius ludovicianus migrans*. MIGRANT SHRIKE.—One was seen at Northampton on August 25, 1931.

*Vireo philadelphicus*. PHILADELPHIA VIREO.—One was seen at Northampton on September 7, 1931.

*Vireo griseus griseus*. WHITE-EYED VIREO.—One was heard singing eight or ten times, but could not be seen, in a thicket at Northampton, early in the morning of September 19, 1931. The date is late, and the species not known to breed hereabouts.

*Vermivora pinus*. BLUE-WINGED WARBLER.—At a typical location, a wet but brushy pasture near Northampton, the unmistakable song of this warbler was heard on both May 16 and May 17, 1931. As most bird students know, it is a very difficult song to place, and the singer eluded all efforts to see him; so he may possibly have not been *pinus* but *leucobronchialis*!

*Wilsonia citrina*. HOODED WARBLER.—An adult male was observed daily from May 2 through May 5, 1929. This has not been recorded heretofore.



*Cistothorus stellaris*. SHORT-BILLED MARSH WREN.—A colony was found breeding in the same meadow as the Henslow's Sparrows. An unusually belated individual was noted, some seven miles south of there, on October 10, 1931.—SAMUEL A. ELIOT, JR., *Smith College, Northampton, Mass.*

**Several Late Nesting Dates at Lexington, Virginia.**—*Spizella pusilla pusilla*. EASTERN FIELD SPARROW.—On September 5, the writer in company with Dr. J. J. Murray, located the nest of a pair of Field Sparrows in a forsythia shrub on the lawn. The nest was situated about four feet above the ground and contained three eggs. On the morning of September 8 the eggs were hatched. They had hatched within twenty-four hours of that time. The young birds developed normally until September 16 on which date they were taken from the nest, probably by a cat.

*Melospiza melodia melodia*. EASTERN SONG SPARROW.—On September 4, Dr. Murray observed a Song Sparrow carrying food to young which were apparently just out of the nest.

*Richmondia cardinalis cardinalis*. EASTERN CARDINAL.—On Sept. 19 he saw a pair of Cardinal Grosbeaks feeding young nearly fully grown.—MERRIAM G. LEWIS, *Lexington, Virginia.*

**Notes from Western North Carolina.**—*Hydrochelidon nigra surinamensis*. BLACK TERN.—According to 'The Birds of North Carolina,' by Pearson and the Brimleys, there have been but few records of this species in western North Carolina, most of these coming from Blowing Rock, where I also observed one flying over Cone's Lake, August 4, 1931. This is the first I have seen in the five years in which I have made protracted late summer visits to Blowing Rock. It remained only a few minutes after I saw it, circling upward until it went out of sight high in the air toward the southeast. It was in full adult plumage.

*Richmondia cardinalis cardinalis*. EASTERN CARDINAL.—Pearson and the Brimleys speak of it as "resident throughout the whole state." In my experience this has not been the case in the higher parts of the state, particularly above 4000 feet. However, Mr. Charles G. Vardell, Jr. and I saw one at Blowing Rock, at an altitude of 4000 feet, the first which I have found there in five years. Mr. Alexander Sprunt, Jr., who has been going to Blowing Rock much longer has only seen one there. At the foot of the mountain, only ten miles away but about 1500 feet lower, they are common. I have not found it at Boone, which, though on the mountain plateau, is 700 feet lower than Blowing Rock. Blowing Rock is on the border line between the Alleghanian and Canadian zones.

*Seiurus motacilla*. LOUISIANA WATER-THRUSH.—In speaking of the range of this bird in North Carolina, Pearson and the Brimleys say that it "is found in practically all parts of the state, ranging in the mountains up to 4,000 feet and possibly beyond." I had never found it in the Blowing Rock section until this summer, when I saw one in thick damp woods on a



shoulder of Flat Top Mountain at an altitude of about 4400 feet, July 29, 1931. There was no stream near. I saw it again an hour later farther down the hillside.

*Regulus satrapa satrapa*. EASTERN GOLDEN-CROWNED KINGLET.—Mr. Alexander Sprunt, Jr., and I found a number of these birds on the lower slopes of Grandfather Mountain, in Avery County, at an altitude of not over 4500 feet, July 31, 1931. This seems worth recording because of the unusually low altitude.—J. J. MURRAY, *Lexington, Va.*

**Further Notes from the North Carolina Mountains.**—The writer, during the past twenty years, has visited western North Carolina during each summer and has been privileged to work over much of the ground covered by earlier observers. As might be supposed, a residence of from one to three months each year for many years, has resulted in observations which were not possible to one working for only a limited time. The following data on the migratory and seasonal movements of some species show interesting comparisons with those of former observers.

*Junco hyemalis carolinensis*. CAROLINA JUNCO.—Little is known about the time when this most characteristic bird of the higher mountains leaves for lower levels on the coming of fall. On page 247 of 'The Birds of North Carolina' it is stated that "Kopman was in the mountains in 1898 as late as September 28, and saw none lower than Cranberry, 3200 ft. elevation." The writer has kept a sharp watch on this form and, until this year (1931) never observed it below 3000 ft., before leaving the mountains on October 1. However, on September 30, 1931, two of these birds were seen at Montreat, Buncombe County, at an elevation of 2800 ft. For four days previous to their appearance there had been sharp frosts and the thermometer ranged from 37 to 42 degrees in the early hours. This is the first time the writer has seen this form as low as 2800 feet in this region though careful search has been made yearly. Above 3500 ft. it is abundant throughout spring and summer, but observes with remarkable accuracy the line of demarcation which is just between 3200 and 3500 ft. It is reasonable to suppose that no movement toward lower levels is undertaken until the first frosts but that when such occur, the birds begin drifting downward from the higher ranges almost at once.

*Petrochelidon lunifrons lunifrons*. EASTERN CLIFF SWALLOW.—This species is not included in 'The Birds of North Carolina' as a fall migrant, having been noted only in spring. I found several in the vicinity of Boone, Watauga County, on August 27, 1929, and at Blowing Rock and Boone, on August 20, 1930. During this past summer (1931) it was observed at Valle Crucis on August 5, and at Black Mountain and Lake Eden, Buncombe County, in some numbers from September 9 to 12. At the last named locality it was quite in evidence, perching on telephone wires and circling about over the lake and adjacent cornfields. No proof of its breeding in the mountains has been found as yet.

*Dendroica tigrina*. CAPE MAY WARBLER.—But one fall record for this

species appears in 'The Birds of North Carolina,' made by Cairns in Buncombe County during mid-September, 1894. I have records as follows: Montreat, Buncombe County, September 22, 24, and 28, 1930, and September 23, 1931.

*Dendroica pensylvanica*. CHESTNUT-SIDED WARBLER.—The departure of this species in the fall is listed in 'The Birds of North Carolina' as September 22. For several years I have seen it in positive abundance at Montreat, Buncombe County, up to the first day of October, which has been my date of departure from the mountains. It is quite the commonest of the warblers throughout the entire migration at this place, at least one sees many more of them than of any other species.

*Seiurus motacilla*. LOUISIANA WATER-THRUSH.—The limit of stay for this species in fall is given in 'The Birds of North Carolina' as "the end of August." I saw and watched one for at least fifteen minutes on the shores of Lake Eden, Buncombe County, on September 27, 1930. The bird frequently came within a few yards of me as I sat quietly near the lake edge and every detail of its plumage was plainly visible without the aid of a glass. The white line over the eye and the unspotted throat were conspicuous.—ALEXANDER SPRUNT, JR., 92 South Battery, Charleston, S. C.

**Some Nesting Records from Stutsman County, North Dakota.**—

*Sayornis sayus*. SAY'S PHOEBE.—June 23, 1931, nest with three eggs in the gable of an abandoned barn in Woodbury Township; an adult male was collected August 9, 1931, to substantiate the record, as this is the first breeding record for this county of which the writer is aware.

*Empidonax trailli brewsteri*. TRAILL'S FLYCATCHER.—July 2, 1931, a nest with one egg found in an upright fork of a box elder, also in Woodbury Township; though the set of three eggs was completed by July 5, only one nestling survived.

*Icterus spurius*. ORCHARD ORIOLE.—June 30, 1931, nest with one egg in a box elder at a height of about fifteen feet and in the same district as the above mentioned nests.—ARCHIBALD JOHNSON, Route 2, Jamestown, N. Dak.

**Notes from Baldwin County, Alabama.**—The following notes, submitted in extension of the data compiled by Arthur H. Howell in his 'Birds of Alabama,' were made on August 30, 1931, at Fairhope, on Mobile Bay, and at Gulf Shores, on the coast about ten miles south of Foley. Mr. Francis M. Weston, of Pensacola, Fla., who was a member of our field party that day, saw and identified all the species listed.

*Querquedula discors*. BLUE-WINGED TEAL.—A flock of twelve, seen at Gulf Shores, is the earliest known occurrence of this species in the state, since Howell mentions nothing earlier than the ones that were "observed at Greensboro in the west-central part of the state as early as September 10." The present instance is even earlier than anything known on the adjacent part of the Florida coast, where Mr. Weston tells me that he has never seen this species in fall before September 4.

*Hydroprogne caspia imperator*. CASPIAN TERN.—A single bird of this species was seen over the beach at Gulf Shores near enough at hand to distinguish it with certainty from the very similar Royal Tern (*Thalasseus maximus maximus*). The Caspian Tern is probably of regular occurrence in the State, but there are few definite records.

*Wilsonia canadensis*. CANADA WARBLER.—One was seen at close range in a small swamp near Fairhope, constituting the only known occurrence of this species in the southern half of the State. Howell considers it a regular, though uncommon, migrant in the northern half of the state and cites a number of instances of its occurrence.—HELEN M. EDWARDS, *Fairhope, Alabama*.

**Unusual Summer Birds from the Vicinity of Brownsville, Texas.—**

It was my good fortune to see six species of birds near Brownsville during the summer of 1931 which were not recorded as summer residents by Griscom and Crosby in their list of birds of this region published in 'The Auk' (1925-26). Two of these are represented by specimens, both immature birds, now in the Museum of Natural History of the University of Minnesota. They are an Atlantic Blue-faced Booby (*Sula dactylatra dactylatra*) and a Cuban Snowy Plover (*Charadrius nivosus tenuirostris*). The latter was very small and unable to fly, indicating that the species breeds here. It was taken July 10.

The Blue-faced Booby was identified by Dr. H. C. Oberholser of the Bureau of Biological Survey. This bird was taken on July 31, on the beach of the Gulf of Mexico near Matamoros, Mexico, about four miles south of the mouth of the Rio Grande. Strange to say the bird was captured by hand, having walked about among several humans as unconcernedly as a barnyard chicken. This is especially peculiar inasmuch as the bird was full-grown and able to fly, as evidenced by the fact that I saw it fly down onto the beach. Was it exhausted by the long flight that brought it so far from its range or was it just stupid?

The Snowy Plover and the four sight records were all from the Texas side of the Rio Grande. Of the latter, the most interesting was the Roseate Spoonbill (*Ajaia ajaja*). This bird was seen at close range on numerous occasions throughout the summer. The most seen at one time was sixteen. They are fairly well known locally, and invariably spoken of as "Flamingoes." One Mexican admitted having shot four of them for the table. I have in my possession a primary feather from a spoonbill which I picked up from one of their feeding grounds.

I saw the equally unmistakable Wood Ibis (*Mycteria americana*) on several occasions. Usually a single individual, which was always tame, and once a group of six, and again about twenty together.

Black Terns (*Chlidonias nigra surinamensis*) were abundant as migrants in August, but I saw some as early as July 6, and a few days later I saw a young bird of the year. I am familiar with the plumages of this species from my experiences in Minnesota, where it breeds abundantly.

The other sight record is of the White-tailed Kite (*Elanus leucurus majusculus*). It was not seen until August 5, so it may not necessarily have bred here, but it was seen in exactly the same locality two weeks later.—ALDEN RISSE, *St. Paul, Minnesota*.

**Two Noteworthy Records for California.**—There have recently been two noteworthy specimens obtained by members of the San Diego Society of Natural History's museum staff, one of which provides an addition to the known avifauna of California. The writer is indebted to Mr. A. J. van Rossem, of the California Institute of Technology, for the positive identification of these specimens, both of which are young birds.

*Otus flammeolus*. FLAMMULATED SCREECH OWL.—This specimen, an immature female, now No. 14919 in the collection of the San Diego Society of Natural History, was found dead on August 11, 1931, lying on the sands of a dry creek bed in Shepherd Canyon, Argus Mountains, Inyo County, California, by Samuel G. Harter. The bird is in juvenal plumage and had not been long out of its nest. It is thus evident that Flammulated Screech Owls were nesting in the Piñon belt on the highest parts of this desert range.

There are several records of this species from the higher Sierra Nevada and San Bernardino ranges of central and southern California, but this instance is the first recorded occurrence from a desert locality within the state.

*Vermivora virginiae*. VIRGINIA'S WARBLER.—An immature female, now No. 14967 in the collection of the San Diego Society of Natural History, was shot on September 3, 1931, near Lemon Grove, a short distance east of San Diego, California, by Frank F. Gander. The bird first attracted Mr. Gander's attention by its peculiar flight and later by its yellowish rump. The capture of this specimen adds another bird to the California list.—LAURENCE M. HUEY, *San Diego Society of Natural History, Balboa Park, San Diego, Calif.*

**Notes from Dr. R. Ciferri on the Birds of Hispaniola.**—In connection with the recent publication of a list of the birds of Hispaniola<sup>1</sup> Dr. R. Ciferri of Santiago, Dominican Republic, has forwarded certain observations that it is desirable to have on permanent record.

With regard to the Black-capped Petrel (*Pterodroma hasitata*) Dr. Ciferri writes that at Moca, Dominican Republic, on May 14 and 15, 1928, there was a very strong north wind with heavy rain accompanied by thunder and lightning. About three a.m. on the morning of May 15 he was awakened by the peculiar calls of a kind of bird unknown to him which he found came from these petrels, of which he estimated that fully one hundred were present over the town of Moca and the nearby experiment station. The birds came from the north and at about five o'clock seemed to leave, going south toward the Cordillera Central. Four were captured

<sup>1</sup> The Birds of Haiti and the Dominican Republic. By Alexander Wetmore and Bradshaw H. Swales, U. S. Nat. Mus. Bull. 155, 1931, pp. 1-483, 26 pls., 2 text-figs.

by hand, the birds seeming much fatigued. In view of the supposed rarity of this species this note is of exceptional interest.

With regard to the record of a Thick-knee (*Oedicnemus dominicensis*) that we quoted from Moltoni as coming from San Juan, October 19, 1929, Dr. Ciferri writes that this was a captive bird obtained originally in Moca and taken to San Juan, where it was made into a specimen, this leading to error with regard to the locality. He reports that in his experience this species ranges from Bonao to Dajabon, along the northern slopes of the Cordillera Central where there are open savannas, grasslands and fields. It is found to the foot of Cordillera Septentrional so that its home is comprised in the great valley of Cibao, beginning near Monte Cristi and extending to Sabana de la Mar. The bird is found also in the southeast where it occurs through the great Sabana de Guerra or Sabana de Guabatico, the largest savanna in the republic. He believes that it has been recently established there by the agency of man in bringing in captive birds, as otherwise it would have a wider distribution in the southern area. These birds deposit two to four eggs in slight depressions on the ground without nesting material. The eggs are grayish in color, mottled closely with spots of brown.

The three specimens of Cedar Waxwing reported were taken from a flock of twenty or twenty-five birds.

The White-bellied Booby, *Sula leucogastra leucogastra*, he found breeding on rocky headlands on Beata Island.

Dr. Ciferri reports that the Hispaniolan Short-eared Owl (*Asio domingensis domingensis*), is common on the Sabana San Thomé, where it nests in clumps of grass (*Paspalum*) in sheltered situations, building its nest of grass-stems. The three eggs are white in color and rather spherical in shape. He has kept both this species and the Stygian Owl (*Asio stygius noctipetens*) in captivity for considerable periods.—ALEXANDER WETMORE, *Smithsonian Institution, Washington, D. C.*

**Seed-cache Robbers among Winter Residents.**—Recently I have witnessed two interesting cases of our winter resident birds in the act of pilfering seed-caches of other winter residents. Both of the occurrences were observed on the campus of Antioch College, Yellow Springs, Ohio.

On September 18, 1931 I saw a Blue Jay pecking at something on a section of a dead pear branch which had lodged in a bush near one of the college dormitories. I drove the jay away to see what it was after. There were two well-weathered bird-pecked holes in the branch. In the bottom of one of these small cavities I found three well-weathered sunflower seeds. The holes, in one of which the seeds were stored, were undoubtedly the work of a woodpecker, probably a Downy Woodpecker, this species being most commonly seen in the pear trees just outside of my dormitory windows. That a nuthatch "cached" the sunflower seeds is probable; though they might have been stored by a Carolina Chickadee or a Tufted Titmouse.

The second occurrence of this nature was observed on October 3, 1931,

in near-by woods. A male Red-bellied Woodpecker was busily engaged in transferring a cache of what appeared to be seeds half the size of grains of corn from a cavity in the end of a broken branch of an ash tree. The bird made several trips to a cavity in another broken limb in the same tree. Each trip it carried one of the seeds. Once I saw a Tufted Titmouse approach the original cache while the woodpecker was in another tree; perhaps it was the rightful owner of the stored food. The woodpecker made four trips to the new cache.—LOUIS B. KALTER, 535 Belmont Park, Dayton, Ohio.



## RECENT LITERATURE.

**Rowan's 'The Riddle of Migration.'**—Those who have followed Prof. Rowan's experiments with juncos and crows have some idea of the angle from which he has been attacking the problem of bird migration but the little volume<sup>1</sup> which he has just published will be a revelation to most readers and a surprise to those already familiar with his work, as they will be delighted with clarity of his explanation of the nature of the "riddle" and the factors involved, and the logical way in which he leads up to the research in which he has been especially interested.

In the prologue he gives us two pictures of migration: one of Pink-footed Geese feeding in Yorkshire, where every condition seems to us satisfactory for their nesting but no! "For them it is the bleak face of Spitzbergen with its ice-bound lagoons, its snow-covered cliffs and precipices, its ocean crossing, its hazards, its hidden perils. No aviator's instruments are theirs; no navigator's compass can help them. But what of that? Though they fly by night, though they encounter deterring storm or tempting moorland or leagues of ice-flecked ocean . . . they will arrive on schedule as thousands of their generations have done before them." Again it is a flock of mixed shore-birds, all birds of the year passing south through Alberta: "traveling into the unknown without guidance, without previous experience, without knowledge of life ultimately to winter on predestined grounds the very existence of which they are completely ignorant"—some in Patagonia, some in Peru, some in California, each species to its own destination.

"Few achievements in the animal kingdom" says our author, "parallel this, the most striking aspect of bird migration and to attempt to explain it in terms of modern scientific knowledge brings us face to face with the fundamental problems of Life" and involves the researches of the anatomist, the bio-chemist, the bio-physicist, the physiologist, etc., in addition to the field observations already so abundantly supplied. In his first chapter Prof. Rowan considers 'The Living Bird' which he finds admirably adapted for life in the air, in which owing to its restless nature most of its time is spent. It is thus perfectly fitted to perform great migrations. The bird's brain is of a comparatively low type so that its intelligence is limited and its responses to stimuli are instinctive; it has a poorly developed sense smell and taste and its hearing, while acute, is probably indifferent to the character of sound, but it has a remarkable perfection of vision. Of its internal glands, the reproductive organs are the most important from the standpoint of migration.

Then considering "Environment Past and Present" and the "Evolution of Migrations" our author shows the dependence of birds on food supply, the debilitating effect of lack of exposure to the ultra violet ray, which is almost absent during the northern winter, and the effect of low temperature,

<sup>1</sup> The Riddle of Migration. By William Rowan, University of Alberta. Baltimore, The Williams and Wilkins Company. 1931. Pp. i-xiv+1-151. Price \$2.00.

water supply, shortage of day-light etc., as possible factors in the evolution of migration. He also points out that in most birds failure to migrate means death, so that natural selection is evidently the basic principle involved in the matter.

He does not regard the ice age as having had any great part in the establishing of the habit of migration since he considers that conditions previous to this epoch were much as they are today and the habit of migration had doubtless already been acquired. He also points out that inferences from the actions of homing pigeons are to be discounted in the study of migration since they are resident birds with an attraction to their home, while young migrants starting south are deliberately leaving their home, not seeking it.

Finally Prof. Rowan considers the annual migrations as we see them today and briefly his theory is as follows:

While all of the factors already mentioned and probably others as yet undetected may have been instrumental in bringing migration about through the long ages that birds have been on the earth, when we come to consider a factor that may be regarded as the stimulus that sets the movement in operation today we find our field of choice limited. For while the date of migration in any given species is remarkably regular, year after year, nearly all of these factors are distinctly variable. In fact there is only one that in its regularity is comparable with the seasonal flights of the birds and this is day length. Birds are not today influenced by food in leaving their summer homes, for most of them leave before there is the slightest lack of food, nor is temperature change *per se* an impelling force, and it is exceedingly variable, while no way has appeared by which a bird might be aware of change in barometric pressure which too, is notably variable in different years. Day length, in addition to its constant and regular change as the season advances or recedes, is recognized as of vital importance to nearly all animals whose activities are directly or indirectly influenced by sun light.

When we attempt to connect day length with the movements of the birds we find that by artificially manipulating the amount of light to which a bird is exposed the interstitial tissue of the reproductive organs may be brought into any desired stage of development and either advanced or retarded as compared with birds subject to natural conditions. Next we find that the hormone produced by this tissue controls sexual behaviour and as migration is a phase of this behaviour the connection seems complete.

Birds taken during the migrations are found to have the interstitial tissue in a condition of increase or decrease while those in winter quarters or in the breeding quarters, where they are resident for the time being, have it at the lowest or highest stage of development respectively.

Prof. Rowan by keeping Juncos in open air aviaries in Alberta has shown that those kept under normal conditions until winter, and then liberated, do not migrate, the stimulus having disappeared with the static condition of the reproductive organs, while those which in the autumn were subjected

to a constantly increased amount of electric light developed sexual organs similar to those of birds in the south in spring, ready to start on their northward flight, and such birds liberated in Alberta in midwinter at once disappeared, presumably going north. Crows similarly treated actually did go north as records showed, they being conspicuous were noted where the smaller juncos would probably escape notice.

Further experiments also showed that it was not the length of day (i. e. the amount of light) that directly affected the development of the gonads but the length of time spent in activity, for which of course the amount of daylight was responsible.

This is but a very brief résumé of Prof. Rowan's researches and one should read his book in order to realize the convincing nature of his experiments and the long strides that he has made in solving the riddle that has been a matter of speculation ever since man began to study birds.—W.S.

**Peters' 'Check-List of Birds of the World.'**—America is at the moment rich in check-lists, with the almost simultaneous appearance of the fourth edition of the 'A. O. U. Check-List' and the first volume of the far more pretentious work<sup>1</sup> of Mr. Peters, covering the birds of the entire world.

The need of such a work as Mr. Peters' is apparent to every ornithologist who has to concern himself with systematic problems or the working up of collections. So much has transpired in technical ornithology since the time of Sharpe's 'Hand-List' that one has to spend much valuable time in collecting the necessary references from the scattered literature before he can begin his study. Everyone, therefore, will welcome the appearance of Mr. Peters' first volume and wish him all speed with the remaining nine. The unfortunate part of any such work is that before the last volume can appear the first will be, to a certain extent at least, out of date. The solution would seem to be to have several individuals working simultaneously on different volumes but this would probably not be practicable, therefore, let us hope that our author has a large part of his task in various stages of completion so that we shall not have to wait too long, and meanwhile let us give him all the help and encouragement possible in his praiseworthy effort to transfer the authoritative check-list of birds from England to America!

Coöperation will be all the easier since, so far as we can see, there is very little to criticize in the general style and appearance of the work and everything to praise. In typography it closely resembles the new 'A. O. U. Check-List' but continues to use diphthongs and does not attempt to distinguish the italic æ from œ. The author adopts the same classification as that prepared for the A. O. U. List, using the more amplified scheme published by Dr. Wetmore in 1930 to cover the birds of the world. This

<sup>1</sup> Check-List of Birds of the World. Volume I. By James Lee Peters, Assistant Curator of Birds, Museum of Comparative Zoölogy at Harvard College. Cambridge, Harvard University Press 1931. Pp. i-xviii + 1-345. Price, \$3.50.

agreement is most gratifying although the sequence of genera is not always the same. The abandonment of the binomial headings for series of subspecies and the placing of the so-called typical subspecies in its proper systematic or geographical position in the series is also in accord with the A. O. U. List. Fossil species are not included although the names of the families and orders which occur only as fossils are given in their proper systematic position, printed in German text. The author relieves himself of no inconsiderable burden when he abandons the use of any English names. This is in accordance with other world check-lists but it seems to us that it would have been a most valuable feature if the English names of at least the American, British and Australian birds were given and those of such tropical species as possess them. This might also have been helpful to the sale of the work! Type localities are not treated in quite so much detail as in the A. O. U. List although the reference to their restriction is often given, a feature which might well be made universal in future check-lists, so also the references are not quite so detailed as in the latter work, i. e., in giving the divisions of a work published in parts or signatures, with actual date of publication. A great improvement over the A. O. U. List is the reference under the genera to monographs or other publications dealing especially with them. This was the original intention in the other list but circumstances made it impossible for the editor to carry it out.

While synonyms are not expected in a work such as this, all that have appeared since the publication of the first volume of Sharpe's 'Hand List' are given, as well as such as did not appear in the 'British Museum Catalogue of Birds,' which is helpful. It would have been desirable too, to have included in the index such names for instance as *Urubitinga anthracina* under both its species and genus, since it is here for the first time transferred to the genus *Buteogallus* and would hardly be looked for in that connection.

In the cases of ranges the author has again been relieved of what proved perhaps the greatest burden in preparing the A. O. U. List, since he has wisely refrained from an attempt to make them even approach the detail that was necessary in the latter work and has ignored all accidental or extralimital occurrences, the range given being simply the normal one.

The statement of the author in his preface that he adheres to the doctrine that "the genus should be used for expressing relationships" and that "minor structural differences should be considered as of specific value only, or at the most merely of subgeneric worth" is most reassuring and we trust that the era when generic division ran rampant to the detriment of nomenclatural stability is drawing to a close. He also explains that he cannot personally vouch for the validity of all species or subspecies included in the List, since it is impossible in such a work to examine all forms or to be critical throughout, and a compiler must refer freely to the opinions of other ornithologists in such matters, obviously the only possible stand to take.

We have compared Mr. Peters' volume with the A. O. U. List as the most

convenient way to give our readers an idea of its character although as regards the number of forms treated and the extent of systematic research required, the two works are hardly comparable. Nevertheless a further comparison may be desirable to show the extent of correspondence in nomenclature. In Mr. Peters' work there are 241 species and subspecies which occur also in the A. O. U. List: he has rejected two forms as not worthy of recognition viz. *Dichromanassa rufescens dickeyi* and *Branta canadensis leucopareia* and recognizes three forms which the A. O. U. Committee rejected viz.: *Ardea herodias oligista*, *Buteo borealis alascensis*, and *Melanitta fusca dixonii*, while he also lists *Pelecanus occidentalis carolinensis*, *Fregata rothschildi magnificens* and *Nyroca marila nearctica*, which were recognized in the other List under the specific names given, the North American birds not being there separated as distinct forms. Of the 236 forms common to the two lists 194 bear exactly the same name in each except that about a dozen have the specific name doubled in view of the recognition of some extralimital race. Of the 42 remaining, 26 differ only in the generic name, due to the rejection of 10 genera recognized by the A. O. U. Committee and the recognition of three not accepted by it, and the change of three others on nomenclatorial grounds. Of the remaining 16 names ten differ from the A. O. U. List only in that the species is made a subspecies of another species and one in being elevated from subspecific to specific rank, changes that are not very serious. We thus have only six names changed on nomenclatorial grounds and these involve only three actual cases. We therefore find that while there is difference of opinion in forty instances as to the rank or validity of genera and species—purely ornithological problems, upon which there will always be diversity of opinion, there are only six questions of nomenclature involved. Three of these hinge upon the undecided question as to whether a word like *Oxyura* is invalidated by *Oxyurus*, the A. O. U. Committee ruling that it is and Mr. Peters taking the opposite view. The other cases are the questions of whether the name *Sula piscator* (Linn.) and *Buteo jamaicensis* (Gmelin) are recognizable and whether Audubon's Washington Eagle is recognizable as the northern form of the Bald Eagle known as *Haliaetus leucocephalus alascanus*. This summary is very satisfactory as demonstrating how comparatively few differences are due to the old bugaboo "nomenclature."

Only time and constant reference to Mr. Peters' volume will show whether there are typographical errors though a rather careful examination of its pages by one who has recently had a good deal to do with such matters fails to detect any, except for the accidental duplication of the specific name of *Puffinus tenuirostris* on p. 56.

We heartily congratulate Mr. Peters on an important and tedious work well done and wish him all success in the completion of his monumental undertaking.—W. S.

**Casey Wood's 'Introduction to the Literature of Vertebrate Zoology.'**—As is generally known there has been accumulated at McGill



University, in Montreal, one of the most notable zoological libraries in America, including among other valuable collections the Blacker Library and the Emma Shearer Wood Library of Ornithology. Dr. Casey Wood widely known as an ophthalmologist and ornithologist and donor of the latter library, some years ago, conceived the idea of compiling a catalogue of all the works relating to vertebrate zoology in the McGill collections and the work,<sup>1</sup> a stout quarto of 643 pages, is before us.

Besides the annotated catalogue which occupies nearly three-fourths of the volume there is an "Introduction to the Literature of Vertebrate Zoology" by Dr. Wood and an "Index Indicis" for the guidance of students consulting the work. The frontispiece is a reproduction of an early painting of the Dodo in the Blacker Library.

The Introduction is presented in ten chapters tracing the literature from the earliest publications of the Greeks, Romans and Oriental nations down through the Middle Ages to the present time. There is also a separate review of treatises and monographs on ornithology and mammalogy published during the nineteenth and twentieth centuries; another on herpetology and ichthyology of the same period; and others on zoogeography, zoological museums and gardens, on the oriental literature of vertebrate zoology and on periodical literature on the subject; also a final chapter on rare and unique books and manuscripts in the University Library. The author is very modest in his protest that the Catalogue is only "partially annotated" and that the "Review" makes no claim to completeness. We may admit all this and yet marvel at the amount of matter that he has brought together. His "review," necessitating as it does only the briefest mention of each author or work, is amazing in the information that it presents and the wonderful grasp of the subject that the author possesses—indeed it contains almost as much history and biography as it does bibliography.

While we have only praise and admiration for anyone who has the courage and perseverance to compile a bibliography, especially such a monumental one as this, a reviewer is apparently expected to give some helpful criticism. The only suggestion that occurs to us is that in the 'Review' a little more definite or consistent sequence in the comments relative to the works of a given science or country would be helpful and a more exact chronological order in contiguous items. Just how exactly authors' names are supposed to be quoted we are not quite sure but we note that Charles Cory appears without his middle letter "B" while curiously enough a middle letter "B" appears in the name of John Bartram, which we do not think he possessed, but these names are correct in the "Catalogue," where

<sup>1</sup> An Introduction to the Literature of Vertebrate Zoology Based Chiefly on the Titles in the Blacker Library of Zoology, the Emma Shearer Wood Library of Ornithology, the Bibliotheca Osleriana and other Libraries of McGill University, Montreal. Compiled and Edited by Casey A. Wood, M.D., LL.D., Collaborator, Division of Birds, Smithsonian Institution. Oxford University Press, London: Humphrey Milford, 1931. Pp. i-xix + 1-643. Price \$15 or 3 Guineas.



however, the present reviewer does not fare so well, as his name is spelled in three ways while in the index one of his works on Eastern Pennsylvania appears as "Eastern Peru"! We note very few such errors, however, and they are of small importance. The "Index Indicis" will be a great help to those using the volume although there seem to be a few errors in the allocation of certain titles, such as the inclusion of two works devoted wholly to North American mammals among the "general treatises."

All zoologists and librarians as well, as the student or general reader in search of information, owe Dr. Wood a debt of gratitude for his painstaking labor in the preparation and publication of this work, as well as his efforts for many years past in collecting the wonderful ornithological library upon which, in part at least, it is based.—W. S.

**Miller on the American Shrikes of the Genus *Lanius*.**—Seldom if ever has a limited group of birds been studied so exhaustively as have our shrikes in this monograph<sup>1</sup> of Mr. Miller's. And so completely has he covered the ground that it is hard to find anything that he has overlooked, while his method of treatment might well serve as a model for such studies.

The species considered are *Lanius borealis* and *L. ludovicianus* though he regards the former and its subspecies *invictus* as races of the Old World *L. excubitor*. The paper is divided into two nearly equal parts entitled "Systematic Revision and Analysis of Variation" and "Natural History." We like the latter term which of late years has been much less frequently used than formerly, for we should rather be known as a "naturalist" than as a scientist, ecologist or similar supposedly more brilliant title!

The first consists of a discussion of the characters exhibited by shrikes of the genus *Lanius* with tables showing their variation with regard to sex and age. Then follows the chapter on characterization of species and subspecies with synonymy, discussion of the type, and detailed description of the various plumages of each form, including a statement of its range; and finally a discussion of geographic variation of the several characters with respect to climate, environment, etc., illustrated by tables, diagrams and photographs of habitats.

Under natural history we find accounts of molt, migration, habitats, territory, courtship, nests and eggs, incubation, growth of young, food, foraging, impaling instinct, digestion, preening and bathing, modes of progression, vocal notes, causes of death and age—truly an exhaustive treatment.

With regard to the systematic discussion Mr. Miller recognizes four more races of *L. ludovicianus* than does the recent A. O. U. 'Check-List.' Doubtless with the vast amount of material at his disposal his treatment is the more logical of the two though in such cases we must remember that

<sup>1</sup> Systematic Revision and Natural History of the American Shrikes (*Lanius*)  
By Alden H. Miller. Univ. Calif. Publ. Zool., Vol. 38, No. 2, pp. 11-242, 65 figs.  
in text. October 24, 1931. Price \$3.00.

his view is that of one who has spent much time in an intensive study of a small group, in which process slight differences inevitably loom large, while the other is the majority vote of several ornithologists looking upon this group as they have a large number of others which they have had to consider rather briefly. There will always be differences of opinion in such matters. In his discussion of plumages Mr. Miller in the main uses the terms suggested by the late Dr. Dwight in his papers on molt and sequence of plumages, but we find the plumage following the natal down, or the bird in that plumage, referred to as "juvenal" in some places and "juvenile" in others (perhaps intentionally to distinguish bird from plumage). The latter term has been used by many in a loose manner to indicate both the "juvenal" plumage of Dwight and the first winter plumage or "first fall" plumage as Mr. Miller prefers to call it. It seems unfortunate that we cannot all use Dr. Dwight's nomenclature in its entirety and avoid possible misunderstanding.

To illustrate the care that Mr. Miller has exercised in his work and also the way in which personal opinion will enter into the question of the recognition of subspecies we note that in his tables he subdivides some of his subspecies into "northern" and "southern," or "San Francisco" and "Los Angeles" forms, which show differences in measurements but not sufficient, in his judgement, to warrant a name. So others possessing minds with perhaps less finely graduated scales have regarded some of his subspecies in the same way.

Mr. Miller speaking of the formation of subspecies makes the interesting suggestion that while some birds are regarded as plastic in this respect, "is this apparent plasticity due so much to an inherent plasticity of genetic composition as to a lack of individual plasticity, that is to say, close dependence on some narrowly defined ecological niche, which, therefore, requires the species to change in response to all minor differences in habitat whether or not it is especially plastic genetically?" He moreover states that the Loggerhead Shrikes find the barriers to their distribution in faunal and associational categories rather than in zonal or temperature control.

It is impossible to cover all the interesting points raised in this paper but the impaling of prey by Shrikes has been subject to so many extravagant theories that it is interesting to learn that Mr. Miller agrees with Seebohm that the habit is due to the lack of sufficiently powerful feet on the part of the bird to hold its prey while he further considers, from a study of both wild and cage birds, that the shrike reacts at once to the sight of moving prey, kills it and impales it but fails to carry out the feeding action if hunger is already satisfied. In other words the shrike kills in response to external stimuli whether hungry or not, and it is so constructed that it must instinctively capture moving objects, so that the attributing to it of cruel or wanton actions, as we should do in the case of a reasoning human being, is entirely unwarranted as in many other attempts to interpret animal behaviour. While shrikes do return to partly eaten, impaled food they do so less frequently if they do not eat part of it at the time of killing and will be

diverted entirely in the presence of freshly killed food. This habit, therefore, while it may be potential storage, has not developed into true storage as in the case of rodents storing nuts, largely, perhaps, to the impossibility of keeping animal food fresh.

Another outstanding portion of the work deals with territory and contains much valuable and interesting data largely confirmatory of Mr. Howard's theories on the subject. Especially important is the extension of territorial behaviour to wintering shrikes which have as definite a winter feeding area as they do a breeding area. The account of singing by females is also a contribution to a neglected field.

Mr. Miller is to be congratulated upon a splendid piece of work bearing, as we have indicated, upon several distinct lines of research.—W. S.

**'A Bird Painter's Sketch Book.'**—For those who delight in handsome bird books Philip Rickman's 'Bird Painter's Sketch Book'<sup>1</sup> will have a strong appeal. It consists of thirty-four plates of British birds, eleven in color and twenty-three black and white reproductions of pencil sketches. Each plate is accompanied by a short account of the bird from the author's experience or compiled from recognized authorities, and in case of the color plates an account of the locality represented in the painting.

It is the black and white plates that have the most charm, the birds being drawn with great softness and delicacy, and the reproduction remarkably accurate. Some are finished pictures, others single figures of birds and still others whole pages from the sketch book with many figures in various positions with details of plumage, bills, etc., added here and there. The birds in this series include among others the Raven, Magpie, Bullfinch, Barn Owl, Greenland Falcon, Woodcock, Snipe, and several ducks and plover.

The color plates are not so satisfying, the landscape being the chief motif and the bird figures usually very small and apparently secondary to the view. The reproduction on very highly sized paper, too, is not so satisfactory although the pictures are often very attractive.

In the text will be found much information on the colors of the soft parts of the bill and feet and quotations from different works on this point, which is evidently a matter of much interest to the author. Mr. Rickman has made a notable contribution to the artistic side of ornithology.—W. S.

**Nicholson's 'The Art of Bird Watching.'**—Until we read Mr. Nicholson's book<sup>2</sup> we had not realized what a science bird-watching had become,

<sup>1</sup> *A Bird Painter's Sketch Book* Written and Illustrated by Philip Rickman, Illustrator of "Game Birds," "The Gun Room Guide," etc. Published in London by Eyre & Spottiswoode and in New York by Charles Scribner's Sons. MCMXXXI. Pp. 150 and 11 plates. Price \$10.00.

<sup>2</sup> *The Art of Bird-Watching, A Practical Guide to Field Observation.* By E. M. Nicholson, Author of "Birds in England," "How Birds Live," "The Study of Birds." Illustrated by Photographs, Maps and Diagrams. The Sports and Pastimes Library. H. F. and G. Witherby, 326 High Holborn, London, W. C. 1931. pp. 1-218. Price 10 shillings 6 pence, net.

distinct in its way from ornithology or even bird-banding,—in fact in America we have not even developed a distinctive name for the study though vastly more people are engaged in it than in ornithology *sensu strictu*. Possibly we prefer "ornithology" as more high sounding and are loath to relinquish it, like the young amateur who has his letter heads printed "ornithologist and oologist" and imagines that thereby his reputation has been established.

At any rate we know of no recent book that deserves the careful attention of our field students than this volume of Mr. Nicholson's, and none that is more suggestive or informing as to what to do in the study of live birds and how to go about it.

We have long been impressed with the innumerable opportunities that are lost by those observers whose main object seems to be to get as large a daily list as possible and it may be open to question whether the prominence given to competition in this line may not be as harmful as beneficial in furthering ornithological knowledge. It is not the length of the list that counts but the detailed notes made on the spot on the behaviour of even a few species. To this end the printed pocket form with room only for a check mark does not compare with an ordinary note book with unlimited space for full observation.

Mr. Nicholson defines bird watching as "either the most scientific of sports or the most sporting of sciences." "Bird watchers have usually nothing in common," he says, "except the fact that they are bird watchers, and this curious community of interest" he adds, "seems to have no explanation other than that it is an Act of God"

He emphasizes the error in the belief that bird watching demands no special training and that it is only necessary to go out and see what you can find in order to draw your own conclusions and he stresses the need of knowledge acquired by others as to local and seasonal occurrences and the problems of plumage and molt, migration, song, nesting habits and behaviour, in order to make worth while contributions to the subject. For this purpose he lists many books although this list must change somewhat with the location of the observer—he is writing primarily for English readers.

Of identification books he says very truly that they "are still colored by the tradition that what is demanded of them is a feather description for a corpse in the hand" "for," he adds, "identification is not just a matter of plumage and size, and a good bird watcher can give a correct determination without necessarily knowing either."

In the matter of equipment our author says, "the only article for bird watching that can rank with field glasses, if not before them, is the note book," and he emphasizes the importance of entering one's observations on the spot. "It is commonly reckoned that failure of memory only spoils observations left unrecorded for a day or a week but the same process is at work on those unrecorded for half an hour." He also insists on a permanent record apart from the field note book, either a loose leaf book or a card system, "not a record in diary form which soon becomes unmanageable."

We could go on quoting words of wisdom from this work but those who study birds in the field should read the book in its entirety. There are chapters on recording bird censuses, of making ecological studies, investigations of song, nesting, etc., etc.

The fact that it is an English book and mentions English species, where definite mention of species is required, in no way detracts from its usefulness to American bird watchers as the methods to be pursued and the objects to be gained are the same everywhere. It is largely to bird watching that ornithology looks for its advancement today, accumulation of skins and their study, so far as many parts of the world are concerned, is, like nomenclature "a means not an end of ornithological science" and is, except in the case of museums, almost a thing of the past. It is therefore high time that we develop well trained bird watchers, field students, or whatever we may call them, who shall know what to look for and how to record their observations, so that a valuable method of scientific research shall not develop into a mere amusement. Mr. Nicholson's book is almost the first to adequately point the way and lay down the rules of the game.—W. S.

**Kearton's 'The Island of Penguins.'**—We have had a number of books and papers dealing with penguins notably Dr. Levick's 'Antarctic Penguins' and Dr. Murphy's paper on the 'Penguins of South Georgia Island,' both dealing with more typically Antarctic species, and now we have before us Mr. Kearton's contribution<sup>1</sup> to the life history of the Black-footed or Jackass Penguin (*Spheniscus demersus*), which breeds on an island off Cape of Good Hope. The author and his wife spent five months on the 'Island of Penguins,' inhabited only by the birds and the lighthouse keepers. They estimated that at least five million penguins as well as hosts of gulls, cormorants, terns, etc., bred there so that it was by no means "uninhabited." Mr. Kearton is well known as a photographer of birds and the seventy odd pictures in the present volume fully maintain his reputation, while his graphic account of his experiences testify to his ability as a writer as well.

Except in the first chapter, in which he describes the trip from Cape-town and arrival at the island, he devotes himself entirely to the birds, explaining the absence of personal experiences by the statements that the knowledge he obtained of the birds is more important than how he acquired it; that after writing the life history of some five million penguins there would be no room for anything more; and finally that the penguins are far more amusing than he can ever hope to be!

His account of the birds is written in a personal vein referring to the pair which he especially studied as Mr. and Mrs. Penguin and likening individuals to various types of human beings which they could not help but

<sup>1</sup> The Island of Penguins. By Cherry Kearton, Author of In the Land of the Lion; Photographing Wild Life across the World, etc. With seventy illustrations and a map. Robert M. McBride & Company, 7 W. 16th St., New York, MCMXXXI. Pp. i-xviii + 1-248. Price, \$3.00.



recall vividly. This style makes the book unusually attractive to the general reader while the facts of behaviour are so accurately presented that it in no way detracts from its value as a scientific work.

The first night on the island was supposed to be devoted to much needed sleep: "but," says the author, "imagine yourself in the center of a field in which are tethered a hundred donkeys, then imagine these donkeys all braying at once—that was the discordant noise that drove us far from slumber." "But," he adds, "one can get used in time even to the sound of tram-cars passing one's bedroom window!" This loud braying of the birds accounts for their popular name of "Jackass" Penguin.

The thousand birds present when the author landed seemed a host in themselves but they sank into insignificance when the five million came up from the sea a few days later from their "winter quarters" farther south, their heads bobbing up and down as far as the eye could reach over the waves, and began to prepare for their nesting. The Black-footed Penguin digs a diagonal burrow one to three feet deep in the ground, or scoops out a shelter under an overhanging rock where some sticks, seaweed or grass stems are placed, upon which the eggs are laid. These are usually two in number, sometimes three or even four.

The courting performances, fights, bathing and molting are described in detail, for the birds were perfectly tame and went on with their business regardless of the presence of the visitors, sometimes actually walking into the tent.

There are chapters on the gulls and ibises which were ever on the alert to steal an egg and on the sharks which were dreaded enemies in the water, while seals and turtles which frequented the island receive due attention. Mr. Kearton has given us a most interesting account of the life of a fascinating bird and we are glad to learn that his book is deservedly popular. When the reader has finished its perusal he will, we think, agree with the author that the "Island of Penguins" is the "eighth wonder of the world."—W. S.

**Crandall's 'Paradise Quest.'**—We have already reviewed Mr. Crandall's preliminary accounts of his trip to New Guinea in the interests of the New York Zoological Society in quest of Birds of Paradise (see *Auk*, 1930, p. 109). This matter has now been amplified and issued in book form<sup>1</sup> and makes a most interesting narrative of life and travel in this still little known island. Most of the volume is devoted to detailed experiences with the natives and the wilderness and there is much information as to the method of life of the wild tribes, all abundantly illustrated.

One chapter is entitled "Birds of Paradise" and here are described several of the more noteworthy species secured, but as all specimens were obtained from the natives who catch them with snares, there is little or no

<sup>1</sup> *Paradise Quest, A Naturalist's Experiences in New Guinea.* By Lee S. Crandall, Curator of Birds, New York Zoological Park. Charles Scribner's Sons, New York and London. 1931. Pp. i-xvii + 1-226. Price \$3.50.



personal observation of the birds in life. There are, however, accounts of the display of several species after their arrival in the aviaries of the New York Zoo and photographs and accounts of the bowers of the 'Bower-birds,' also members of the Paradise family, as seen in the wilds. In the introduction we learn that the first specimens of Paradise birds seen by Europeans, were those of the Greater Bird of Paradise (*Paradisaea apoda*), obtained by Magellan on his voyage around the world in 1522. No living specimen reached Europe until Wallace brought some of the Lesser Bird of Paradise to the London Zoo in 1862 and none reached America until 1910. Thanks to the Crandall Expedition, however, thousands of persons visiting the zoological gardens in New York, Philadelphia and some other cities, have been able recently to see and study several different species of these wonderful creatures in life, and to watch their fascinating displays.

Mr. Crandall's book will furnish first hand recent information about life and travel in the mysterious land of New Guinea, only a small portion of which has yet been trodden by white men and the mountains of which still doubtless hold many undescribed forms of life.—W. S.

**Blatchley's 'My Nature Nook.'**—Mr. Blatchley, well known as an entomologist and author of several scientific monographs and lesser papers in that field, is also well versed in other branches of natural history and has furthermore the ability to write entertainingly of his experiences. The present little volume<sup>1</sup> is a delightful picture of Florida's Gulf coast in the neighborhood of Dunedin, where the author established a winter home in 1913, clearing his own land and eventually building his house.

On nearly every page there is mention of birds, details of the habits or actions of familiar species rather than records of rarities, and among the commoner neighbors of his home which receive due consideration may be mentioned the Red-bellied Woodpecker, Clapper Rail, Grackle, Fish Hawk, Ground Dove, Blue Jay and Loggerhead Shrike.

There is frequent mention of familiar Florida trees and shrubs, of insects and sea shells, as well as comments on the negroes and on the philosophy of life, and last but not least on the weather which the author tells us is not always the balmy springtime that it is pictured by enterprising real estate agents.

It is sad to contrast the Main Street of Dunedin as he found it in 1913 bordered with splendid live oaks, pines and cabbage palmettos with the paved street of today, largely bereft of trees, and to learn that the former "city of oaks" is now through "advancing civilization," "just another town." There is, however, still much of interest for the lover of nature in the out of the way spots on the Gulf coast of Florida and Mr. Blatchley's little book will lure many to sojourn there while to those familiar with the region it will arouse delightful reminiscences. We wonder whether the record of the

<sup>1</sup> My Nature Nook or Notes on the Natural History of the Vicinity of Dunedin, Florida. By W. S. Blatchley. The Nature Publishing Company, 1558 Park Ave., Indianapolis. 1931. Pp. 1-302. Price \$2.00 net.

Florida Burrowing Owl on Hog Island has been recorded elsewhere and whether the occurrence of the Snowy Owl in the same locality has been definitely authenticated.—W. S.

**Doane's 'Common Pests.'**—This useful and instructive book<sup>1</sup> deals with pests which affect man's "health, happiness and welfare" and methods for controlling them. Naturally it treats mainly of insect pests such as flies, mosquitos, fleas, etc., and pests of the garden and orchard, but there are also some twenty-five pages devoted to mammals in which poison is recommended as cheaper than trapping or shooting as a method of control. Although warning is given as to the care that should be exercised in applying it so as not to endanger live stock or game animals, the author does not seem to be aware of the various accounts of the unintentional and widespread destruction of birds by this method!

Bird pests are treated on a dozen pages. Crows and blackbirds are regarded as "on the fence" economically. The Bobolink is absolved from wrong-doing under present conditions but the Catbird and House Finch are considered to require control, at times, as are the jays and sapsuckers. Why the Robin is not mentioned when the Catbird is condemned as a berry-eater we do not understand! A proper warning is sounded against the promiscuous killing of hawks as the author says: "No hawk should be killed unless one is absolutely sure that it is one of the harmful species."

While the English Sparrow is properly condemned as a nuisance the author quotes the Biological Survey in pronouncing the Starling a valuable species. We have frequently had occasion to differ from this conclusion since in our experience the activity of the Starling in driving away or crowding out our native birds more than offsets its usefulness as an insect destroyer, and England with a far greater experience finds it a nuisance.

In the case of birds the author says, very properly, that as a means of control "poisoning is too generally destructive to be recommended" and shooting or trapping is recommended. He could well have extended this advice to the control of mammals also!

The book should fill an important gap in our economic literature so far as its main subject is concerned. It is well gotten up and fully illustrated.—W. S.

**Ashbrook's 'Birds of America.'**—This little pocket guide<sup>2</sup> consists of three booklets, 5½ x 3¼ ins., bound in stiff paper, the "Red," "Blue" and "Green Book of Birds of America," containing between them, in the se-

<sup>1</sup> Common Pests. How to Control Some of the Pests that Affect Man's Health, Happiness and Welfare. By Rennie W. Doane, Stanford University. Profusely Illustrated. Charles C. Thomas, Publisher. Springfield, Illinois, Baltimore, Maryland. 1931. Pp. 1-384 with index additional. Price \$4.00 post paid.

<sup>2</sup> The Red Book of Birds of America. By Frank G. Ashbrook. Illustrations by Paul Moller. This is one of a Series of Three Books. Copyright 1931. Whitman Publishing Co., Racine, Wisconsin. [Water birds to Woodpeckers.] The Blue Book [Goatsuckers to Finches]. The Green Book [Tanagers to Thrushes].

quence of the old A. O. U. 'Check-List,' the greater part of the more familiar birds of the eastern states and many of the West, about 200 in all.

There is a colored picture of each and a brief text covering range, habitat, measurements, habits, nest and eggs, the former by Paul Moller and the latter by Frank G. Ashbrook.

The text is accurately compiled with incidental mention of closely related species or subspecies not deemed worthy of fuller treatment while the pictures are in the main acceptably drawn for purposes of identification and remarkably well colored when we consider that the booklets sell for 10 cents each—30 cents for the set. It forms a better bird guide than many which sell for three times as much or more and should do a world of good in interesting children and others in birds and their protection which subject is covered by a brief preface to each volume. There is an unfortunate error at the end of the introduction where it is stated that the length of each bird is taken from the tip of the "wing" (instead of "bill") to the tip of the tail. These booklets are for sale at the Woolworth Stores, throughout the country and we understand that they are soon to be offered through the book trade enclosed in a telescope box at 50 cts. per set.—W. S.

**'Measurements of Birds.'**—This sumptuous publication<sup>1</sup> of 165 pages is devoted wholly to explaining the methods in use for taking measurements of birds and is prepared by S. Prentiss Baldwin, Harry C. Oberholser and Leonard G. Worley. No less than 151 measurements are described, each figured by a line drawing by James M. Valentine. As a matter of fact only a very few of these are in practical use but it is convenient to have them all described in detail in case one should have need to employ them.

Unfortunately in the measurements that *are* in constant use there is difference of opinion, mainly between American and European students, as to how they should be taken. This was emphasized some years ago by Mrs. Naumburg who made an earnest plea that the exponents of the two outstanding methods should compromise their differences in the interest of uniformity. We are sorry to see that the present paper instead of upholding her plea still endorses all the methods employed by American writers. If an international agreement could have been achieved, as Mrs. Naumburg suggested, it would have been distinct benefit to ornithology since with the present difference in methods we are unable to make accurate use of published measurements. Unfortunately in spite of all suggestions to the contrary scarcely any authors state, in describing a new form, just how they *do* take their measurements!

The work like all publications of the Cleveland Museum is beautifully printed on extra heavy paper, and contains a bibliography as well as a full index.—W. S.

<sup>1</sup> Measurements of Birds. By S. Prentiss Baldwin, Harry C. Oberholser and Leonard G. Worley. Illustrations by James Manson Valentine. Contribution No. 17 from The Baldwin Bird Research Laboratory, Gates Mills, Ohio. Scientific Publ. Cleveland Mus. Nat. Hist. Vol. II. Issued October 14, 1931. Pp. 1-ix + 1-165, figs. 1-151.

**'Aves' for 1930.**—Once again we have to thank Mr. Sclater for the compilation of the bird section<sup>1</sup> of the 'Zoological Record' an indispensable work for the systematic ornithologist or for anyone desiring to consult the literature of the science.

There are 1406 titles listed for the year 1930 which are as usual conveniently rearranged, by number and author, under subject and country and then systematically by families, with the names of all new forms given.

Stressman so far as number of papers goes seems to be the leading contributor for 1930, with Friedmann and Wetmore leading the Americans. What we should do without this publication it is difficult to say especially when it appears within eight months of the close of the year of which it treats. The Zoological Society of London deserves all praise and all the financial help that scientific bodies throughout the world can give in keeping up the 'Zoological Record' while ornithologists should help by subscribing to the bird section which is offered separately for 7 shillings 6 pence.—W. S.

**Reis' 'Bird of Portugal.'**—This is a systematic list<sup>2</sup> of the birds of Portugal with the scientific name and a list of vernacular names of each species or race, followed by a statement of its relative abundance and distribution. The number of forms recorded is 331.

The list is well printed and the nomenclature up to date and the author is to be congratulated upon an excellent piece of work. So much cannot, however, be said of the several illustrations which appear to have been drawn from badly mounted specimens with backgrounds supplied by the artist. The text is entirely in Portuguese.—W. S.

**Snyder on the Birds of Long Point, Ontario.**<sup>3</sup>—Following reports on other local regions of Ontario already reviewed in these columns the Royal Ontario Museum has made a survey of the vertebrates of Long Point, which projects into the eastern part of Lake Erie just as Point Pelee juts into its western waters. The present peninsula is almost opposite the city of Erie and the report on the survey is, therefore, especially interesting in comparison with W. E. C. Todd's report some years ago on the fauna of Presque Isle, close to this city.

The introduction and account of the birds and mammals are by L. L. Snyder and that on the reptiles and amphibians by E. B. S. Logier. We learn that the fauna is intermediate between the Carolinian and Alleghan-

<sup>1</sup> *Aves* (Zoological Record Vol. LXVII) 1930. W. L. Sclater, M. A. Printed for the Zoological Society of London. Sold at their House in Regent's Park, London, N. W. 8. August, 1931, Pp. 1-97. Price 7 sh. 6 pence.

<sup>2</sup> *Catalogo Sistemático e Analítico das Aves de Portugal* por J. A. Reis Junior, Conservador do Museu de Zoologia da Faculdade de Ciências da Universidade do Porto. Porto 1931. Pp. 1-136. Subsidiada Pela Junta de Educação Nacional.

<sup>3</sup> *A Faunal Investigation of Long Point, and Vicinity, Norfolk County, Ontario.* By L. L. Snyder and E. B. S. Logier. (Reprinted from the Transactions of the Royal Canadian Institute, Vol. XVIII, Part 1. Pp. 117-236, three plates and a map.)

ian, although Mr. Snyder is of the opinion that under primeval conditions the latter largely predominated and that more southern elements have come in after the area came under cultivation and much of the forests were removed.

The main part of the publication consists of a well annotated list of 230 species of birds with a bibliography.—W. S.

**Robert's 'Les Oiseaux de Chez Nous.'**—We published an announcement of M. Robert's work<sup>1</sup> in 'The Auk' some time ago, and now we have before us the first portfolio consisting of 23 large sheets 15 x 21 ins., upon which are mounted from one to three reproductions of the artist's paintings of familiar French birds—woodpeckers, the Bee-eater, and various passerine species. His work is very different from that of Fuertes or Thorburn and in his treatment, there is more of the artist and less of the ornithologist, with the result, that there is less detailed accuracy and yet, often a reproduction of the character of plumage that is not always attained by our bird artists.

M. Robert's work is, however, by no means uniform; some of his birds show intimate knowledge of the living bird and many a characteristic attitude has been caught while on the other hand there are figures, which in their stiffness and unnatural poses look as if they had been painted from badly mounted specimens. The backgrounds, too, vary very much in effectiveness, some being excellent while others are unfortunate in being far more conspicuous than the bird. There are several cases too, where the background color has been put on immediately around the figure of the bird following its very curve!

However, they are probably the best paintings of French birds that have been produced and most of them are pleasing pictures from an artistic point of view and accurate in detail and coloring, indeed the reproduction seems to be excellent. The work is issued both as a portfolio and as an atlas.—W. S.

**Collinge on the Corn-crake.**—The Land-rail or Corn-crake has diminished in numbers in southern Great Britain for reasons not well understood. As one means of stimulating interest in the bird and its preservation, Dr. Walter E. Collinge has reported<sup>2</sup> on its food habits. He finds it to be one of three British birds that feed most extensively on leather-jackets or crane-fly larvae which are great pests of grass lands. The Corn-crake eats many larvae of the type known in the United States as wire-worms and in all is credited with subsisting to the extent of 66 per cent of its diet upon food, the consumption of which is a benefit to the farmer, while 33 per cent is neutral, and only 1 per cent injurious in character.

Dr. Collinge discusses possible causes of decrease in numbers of the bird,

<sup>1</sup> Leo-Paul Robert | Peintre | Les | Oiseaux | de Chez Nous | Premier Portfeuille | Neuchâtel | Delachaux & Niestlé S. A. | Editeurs.

<sup>2</sup> Journ. Ministry of Agr. Sept. 1931, pp. 618-621, 1 fig.



and says: "In conclusion, we have here the striking case of a most interesting bird, of great economic value, that spends six or seven months on the land just at a period when it can confer the maximum benefit upon agriculturists. It is, therefore, important that every protection should be afforded to so beneficial a species, and that sportsmen and others should be particularly careful not to destroy it."—W. L. M.

**'Third Bulletin of the International Committee For Bird Preservation.'**—The Bulletin contains articles on bird-protection and bird-protective laws applying to fourteen different countries, viz., Austria, Canada, Denmark, Finland, France, Germany, Hungary, Indo-China, Italy, Mexico, Poland, South Africa, British Guiana, and the United States. The reports were prepared by such well-known naturalists as Jean Delacour, Titis Csorgey, Count Arrigoni Degli Oddi, Austin Roberts, J. G. Myers, T. S. Palmer, Hoyes Lloyd and others.

It is shown that the Migratory Quail of Europe (*Coturnix coturnix*) is decreasing under the heavy commercial demands made upon them. Reports recently gathered by Dr. T. Gilbert Pearson through official channels show that the number of these birds shipped for food from Alexandria, Egypt, to European ports in 1927 was 767,850, while in 1930 such exports had dropped to 410,846.

The Bulletin is illustrated with a frontispiece showing the Seventh International Ornithological Congress held in Amsterdam, June 2-7, 1930, at which time the International Committee for Bird Preservation held its Fourth Biennial Convention. It also contains reproductions of photographs of twenty-one prominent members of the Committee.

There is given a brief summary of this organization which was founded at a conference called in London, June 20, 1922.

The Committee is composed of National Sections, whose members are selected by scientific and conservation organizations in 23 countries. These groups include the world's most prominent ornithological societies in America, Europe, Australia, and Japan. This work was initiated and is fostered by the National Association of Audubon Societies.—T. S. P.

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<sup>1</sup> Third Bulletin of the International Committee for Bird Preservation. Compiled by T. Gilbert Pearson, Chairman, National Association of Audubon Societies, 1775 Broadway, New York City. 1931.



Shorter Articles.<sup>1</sup>

**Bagnall, Richard S.**—Some Problems Connected with the Cuckoo and its Ectoparasites. (*Scottish Naturalist*, Sept.-Oct., 1931.)—Raises the point that parasitic cuckoos should be likely to have bird lice similar to those of their foster parents rather than to other cuckoos, since they cannot come in contact with their own kind until they meet in their winter home or in the following summer. Yet the genera, *Cuculus* of the old world and *Coccyzus* and *Piaya* of America, possess three species of lice in common and peculiar to cuckoos.

**Bangs, Outram.**—A Small Collection of Birds from the Silinda Forest. (*Proc. New Engl. Zool. Club*, Vol. XII, pp. 55-76, Aug. 13, 1913.)—This collection from the borderline of Portuguese East Africa and Southern Rhodesia was made by Dr. and Mrs. J. H. Sandground and contains 107 species or subspecies of which *Chlorophoneus abbotti sandgroundi* is described as new (p. 70).

**Bangs, Outram.**—A New Genus and Species of American Buntings. (*Proc. New Engl. Zool. Club*, Vol. XII, pp. 85-88, Sept. 1, 1931.) The Bryant collection at the Museum of Comparative Zoology contained a skin of a bunting secured in Jalisco, Mexico in 1889. It had always been regarded as a hybrid, although opinion differed widely as to its parentage and there was no clear evidence of hybridism. Now Mr. A. M. Bailey has obtained a second example in Durango and Mr. Bangs describes the bird as a new species and genus *Xenospiza baileyi* (p. 87).

**Bangs, Outram.**—A Genus for *Junco siemsseni* Martens. (*Proc. New Engl. Zool. Club*, Vol. XII, pp. 89-91, Sept. 18, 1931.)—This Chinese bird is of course not a Junco and neither is it an *Emberiza* to which genus it has been referred by some, so Mr. Bangs proposes for its reception the genus *Latoucheornis* (p. 91).

**Bangs, Outram and Loveridge, Arthur.**—Descriptions of Some New Birds from Southwestern Tanganyika Territory. (*Proc. New Engl. Zool. Club*, Vol. XII, pp. 93-96, Oct. 5, 1931.)—*Francolinus squamatus uzunguensis* (p. 93), *Illadopsis stictigula pressa* (p. 94), *Bessonornis albigularis porotoensis* (p. 94), *Apalis thoracica interjectiva* (p. 95), *Zosterops virens sarmentica* (p. 95) and *Linurgus kilimensis runguensis* (p. 96).

<sup>1</sup> Addresses of journals most frequently quoted, where location is not indicated in title.

*Canadian Field Naturalist*, Wilmot Lloyd, 582 Mariposa Ave., Rockcliffe Park, Ottawa, Canada. \$2.00 per year (monthly except June-August).

*Florida Naturalist*, R. J. Longstreet, Daytona Beach, Fla. \$1.00 per year (quarterly).

*Scottish Naturalist*, Oliver and Boyd, Tweeddale Court, Edinburgh, Scotland. 12 shillings 6 pence per year (monthly).

*Proc. New England Zool. Club*, Charles F. Batchelder, Peterborough, N. H.  
*Proc. Biol. Soc. Washington*, Dr. Charles W. Richmond, U. S. Nat. Museum, Washington, D. C.

*Natural History*, Amer. Mus. Nat. Hist., New York City.

**Baxter, Evelyn V. and Rintoul, Leonora J.**—Some Notes on Caithness Birds (*Scottish Naturalist*, Sept.-Oct., 1931.)

**Berry, John.**—Notes on the Spring Migration of Birds in the Newgurgh District, River Tay. (*Scottish Naturalist*, Sept.-Oct. and Nov.-Dec., 1931.)

**Berlepsch, Hans Freiherr von.**—Twentieth-third annual Report on Bird Observation at Seebach. [In German.]

**Bishop, Louis B.**—Three Apparently Undescribed Owls. (*Proc. Biol. Soc. Wash.*, Vol. 44, pp. 93-96, June 29, 1931.)—*Bubo virginianus leucomelas* Victoria, B. C. (p. 93), *Strix varia brunnescens* (p. 94), Lake of the Woods, Minn., *S. v. albescens* (p. 95), Atelante, Quebec.

**Bishop, Louis B.**—Sexual Dichromatism in the Pygmy Owl. (*Proc. Biol. Soc. Wash.*, Vol. 44, pp. 97-98, July 15, 1931.)—*Glaucidium gnoma pinicola* is regarded as a color form of *californicum*.

**Brimley, C. A.**—The Birds of Raleigh, N. C. (*Jour. Elisha Mitchell Sci. Soc.*, Vol. 46, No. 1, Nov., 1930.)—An annotated list of 215 species or subspecies based upon the author's experience, 1884-1929, together with records communicated to him by others. Records of ten other species for other points in North Carolina which are additional to the 'Birds of North Carolina,' 1919, are added.

**Cartwright, Bertram W.**—Notes and Observations on Some Manitoban Birds. (*Canadian Field Naturalist*, Nov., 1931.)—Connecticut Warbler with young recorded from Sandlilands.

**Baker, A. W.**—Insect Parasites of Vertebrates and Host Phylogeny. (*Canadian Field Naturalist*, Nov., 1931.)—Discusses the relationship between parasite study and the genetic relationship of their hosts.

**Chapin, James P.**—Up the Congo to Lukolela. (*Natural History*, Sept.-Oct., 1931.)

**Chapman, Frank M.**—A New Race of *Brachygalba lugubris* from Northeastern Brazil. (*Amer. Mus. Novitates*, No. 450, Jan. 21, 1931.)—*B. l. naumburgi* (p. 1).

**Davis, Eli.**—Some Notes on Mammals, Birds and Ferns of Kazabazula District, Quebec. (*Canadian Field Nat.*, Nov., 1931.)

**Duse, Antonio.** Observations on Bird Migration at the Ornithological Observatory at Garda in the Autumn of 1929. (*Ricerche Zool. Applic. Inst. Zool. Univ. Bologna* No. 2, 1930.)—Bird banding records. [In Italian.]

**Duse A. and Toschi, A.**—A Contribution to the Study of the Migration of *Alauda arvensis*, *Turdus musicus* and *Fringilla coelebs*. (*Ricerche Zool. Applic. Inst. Zool. Univ. Bologna*, No. 1, 1930.)

**Fairbairn, H. W.**—Notes on Mammals and Birds from Great Slave Lake. (*Canadian Field Nat.*, Oct., 1931.)

**Fisher, Albert K. and Wetmore, Alexander.**—Report on Birds Recorded by the Pinchot Expedition of 1929 to the Caribbean and Pacific. (*Proc. U. S. Nat. Mus.*, Vol. 79, Art. 10, pp. 1-66, pls. 1-10.)—This report is divided into parts, one dealing with the Caribbean Islands and the other with those of the Pacific. The former includes Grand Cayman, Swan and Little Swan Islands, Old Providence and St. Andrews, from which 57 species were recorded. In the Pacific the party visited Cocos Island, the Galapagos, Marquesas, Tuamotu and Tahiti, on which 94 species were observed. Interesting notes on the habits of the birds are presented and one new hummingbird was secured, *Anthracothorax nigricollis pinchoti* previously described by Dr. Wetmore from St. Andrews Island.

**Friedmann, Herbert.**—The Northern Form of the Cardinal Dioch, *Quelea cardinalis*. (*Proc. Biol. Soc. Wash.*, Vol. 44, pp. 119-120, Oct. 17, 1931.)—*Q. c. pallida* (p. 119), Indunumara Mts., Kenya Colony.

**Friedmann, Herbert.**—A Weaver Bird New to Science from Urundi, Central Africa. (*Proc. Biol. Soc. Wash.*, Vol. 44, pp. 117-118, Oct. 17, 1931.)—*Ploceus jacksoni jucundus* (p. 117).

**Friedmann, Herbert.**—The Geographic Forms of the Somali Sparrow, *Passer castanopterus* Blyth. (*Occas. Papers Boston Soc. Nat. Hist.*, Vol. 5, pp. 427-428.)—*P. c. fulgens* (p. 428) described as new, Indunumara Mts., Kenya Colony.

**Friedmann, Herbert.**—The Tanganyikan Form of *Anthreptes orientalis* (*Occas. Papers Boston Soc. Nat. Hist.*, Vol. 5, pp. 383-384, Aug. 10, 1931.)—*A. o. barbouri* (p. 383), Dodoma.

**Friedmann, Herbert.**—Observations on the Growth Rate of the Foot in the Mound Birds of the Genus *Megapodius*. (*Proc. U. S. Nat. Mus.*, Vol. 80, Art. 1, pp. 1-4.)—Finds from an examination of young and embryos that megapodes at hatching have unusually strong and well developed tarsi but not particularly large or heavy toes or claws, as compared with adults. It is suggested that this is in accordance with the action of the young in boring upward to emerge from the mound in which no lateral scratching is possible.

**Ganier, A. F.**—Facts about Eagles in Tennessee. (*Jour. Tenn. Acad. Sci.*, Vol. IV, pp. 51-57, April, 1931.)—Nesting, habits and distribution of the Bald and Golden Eagles. Cf. also additional note on p. 95.

**Grimes, S. A.**—Notes on the Orchard Oriole. (*The Florida Naturalist*, Vol. V., No. 1, Oct., 1931.)—With excellent photographs.

**Griscom, Ludlow.**—Notes on Rare and Little Known Neotropical Pygmy Owls. (*Proc. New Engl. Zool. Club*, Vol. XII, pp. 37-43, May 19,

1931.)—*Glaucidium gnoma* and *minutissimum* are regarded as only sub-specifically different; *G. palmarum* Nelson is also a subspecies of this group and *G. fisheri* Nelson and Palmer is merely an immature *gnoma*. *G. m. rarum* (p. 41), from Perme, Panama, is described as new.

**Grote, Hermann.**—Additional Information Regarding Palaearctic Migrants in Africa. (*Mitteilung. Zool. Mus. Berlin*, Band 17, Heft 3, pp. 406-414).—Notes on forty-four species. [In German.]

**Hantzsch, Bernhard.**—Contributions to the Knowledge of Extreme Northeastern Labrador. (*Canadian Field Nat.*, Oct. and Nov., 1931.)—An annotated list of the birds in the latter number, pp. 196-198.

**Kuerzi, John F.**—The Ornithological Year 1928 in the New York City Region and The Ornithological Year 1929. (*Abst. Proc. Linn. Soc. New York 1929-1930*).—Notes on many species in the New York Region and on the upper New Jersey coast.

**Kuerzi, John F.**—Notes on the Breeding Birds of Putnam County, New York. (*Abst. Proc. Linn. Soc. N. Y.*, 1929-1930.)

**Leopold, Aldo and Ball, John N.**—British and American Grouse Cycles. (*Canadian Field Naturalist*, Oct., 1931.)—An important discussion on the interesting fluctuation in grouse and rabbits.

**Longstreet, R. J.**—On the Pleasures of Ornithology. (*Florida Nat.*, Oct., 1931.)

**Maslowski, Karl.**—Ecological Notes on Birds. (*Proc. Junior Soc. Nat. Sci.* Vol. 2, No. 1, Jan.-Feb., 1931. 312 Broadway, Cincinnati, Ohio.)

**McWilliam, J. M.**—On the Breeding of the Black-throated and Red-throated Divers in South Argyllshire. (*Scottish Naturalist*, Nov.-Dec., 1931.)

**Mayr, Ernst.**—Birds Collected During the Whitney South Sea Expedition XIII. A Systematic List of the Birds of Rennell Island with Descriptions of New Species and Subspecies. (*Amer. Mus. Novitates*, No. 486, Aug. 29, 1931.)—38 forms listed in the discussion of which 19 new species and subspecies are named.

**Mayr, Ernst.**—Birds Collected During the Whitney South Sea Expedition XIV. With notes on the Geography of Rennell Island and the Ecology of its Bird Life By Hannibal Hamlin. (*Amer. Mus. Novitates*, No. 488, Sept. 14, 1931.)—Rennell is considered an oceanic island which has been populated from three sources: the Santa Cruz and New Hebrides groups on the east; Solomon Islands on the north and New Guinea and Australia on the west. So far as we can judge from the title the entire paper appears to be by the latter author!

**Mayr, Ernst.**—The Parrot Finches (Genus *Erythrura*). (*Amer. Mus. Novitates* No. 489, Sept. 15, 1931.)—A complete review of the genus. *E. cyanovirens regia* (p. 8) is described as new from northern New Hebrides and a subgenus *Rhamphostruthus* (p. 10) is proposed for *E. kleinschmidti*.

**Mayr, Ernst.**—Determination of the Bird Names of De Vis. (*Mitteilung. Zool. Mus. Berlin*, Bd. 16, Heft 6, pp. 913–917.)—De Vis in describing the New Guinea collection of the MacGregor expedition (1888–1889) proposed a number of new species the types of which are in the museum at Brisbane. Dr. Mayr in this paper states that of the 79 new forms 35 will stand, although many are only of subspecific rank while 37 are synonyms and 7 are still unidentified. [In German.]

**Miller, Alden H.**—An Auklet from the Eocene of Oregon. (*Bull. Dept. Geol. Sci., Univ. Calif.*, Vol. 20, No. 3, pp. 23–26, April 21, 1931.)—*Hydrotherikornis oregonus* (p. 24).

**Nichols, L. N.**—Gardiner's Island Spring Bird Records 1794–97. (*Abst. Proc. Linn. Soc. N. Y.*, 1929–1930.)—An interesting record of long ago.

**Oberholser, Harry C.**—The Atlantic Coast Races of *Thryospiza maritima* (Wilson). (*Proc. Biol. Soc. Wash.*, Vol. 44, pp. 123–128, Oct. 17, 1931.)—*T. m. waynei* (p. 125), described from Chatham Co., Ga. and *T. m. pelonota* (p. 126), from New Smyrna, Fla. The former also occurs in extreme southeastern South Carolina and winters south to Amelia Island, Fla. The latter form seems to be resident and ranges north to Nassau Co. *T. m. macgillivraii* is thus restricted to the coast of central North Carolina south to South Edisto River, S. C., wintering to Florida as does true *maritima*.

**Phillips, John C.**—The American Wild Fowlers. A Brief History of the Association. 1927–1931.—The society has now discontinued and is absorbed by the "More Game In America Foundation."

**Portielje, A. F. J.**—An Attempted Psychological Explanation of the Courtship Behaviour of the Ruff. (*Proc. VII Internat. Ornith. Congress*, Amsterdam, 1930.) [In German.]

**Rintoul, Leonora Jeffrey and Baxter, Evelyn V.**—Bird Notes from the Isle of May, Autumn, 1931. (*Scottish Naturalist*, Nov.–Dec. 1931.)

**Thomson, A. Landsborough.**—On "Abmigration" among the Ducks: An Anomaly shown by the Results of Bird-marking. (*Proc. VII International Ornith. Congress*, Amsterdam, 1930.)—A discussion of cases where resident birds of England have subsequently migrated to some other summer home.

**Todd, W. E. Clyde.**—Critical Notes on the Neotropical Thrushes. (*Proc. Biol. Soc. Wash.*, Vol. 44, pp. 47–54, June 29, 1931.)—The genus *Turdus* is considered to include the "typical" Old World thrushes as well as

those formerly called *Planesticus* but *Semimerula* is regarded as distinct. *Hylocichla ustulata swainsoni* recorded from Colombia by the author should have been *H. u. ustulata* and *Turdus leucomelas ephippialis* is now considered inseparable from *T. l. albiventer*. Mr. Todd also presents a review of *Turdus phaeopygus* and *T. nudigenys* describing as new, *T. p. cayennensis* (p. 50), French Guiana, *T. p. berlepschi* (p. 51), Pio Purus, Brazil and *T. n. extimus* (p. 54), Santarem, Brazil; also *T. haplochrous* (p. 54) Chiquitos, Bolivia.

**Todd, W. E. Clyde.**—A New Mockingbird from Colombia. (*Proc. Biol. Soc. Wash.*, Vol. 44, pp. 45-46, June 29, 1931.)—*Mimus gilvus leucoterus* (p. 46), Santa Marta. The name *melanopterus* proves to be a synonym of *columbianus* which is the larger interior bird of Colombia and not the small littoral form here renamed.

**Van Oort, E. D.**—Results of Bird Banding at the Rijks Museum, Leiden. (*Zool. Mededeel. Rijks Mus. Nat. Hist. Leiden*, XIV, Afl. 1-2, 1931.) [In Dutch.]

**Van Oort, E. D.**—On Some Birds Observed in the Netherlands. (*Zool. Mededeel. Rijks Mus. Nat. Hist. Leiden*, XIII.)—Notes on nine species.

**van Rossem, A. J.**—The Black-tailed Gnatcatcher of Middle Lower California. (*Proc. Biol. Soc. Wash.*, Vol. 44, pp. 99-100, July 15, 1931.)—*Polioptila melanura pontilis* (p. 99) to replace *P. m. nelsoni* preoccupied.

**van Rossem, A. J.**—Notes on the Races of *Saltator grandis* (Lichtenstein). (*Trans. San Diego Soc. Nat. Hist.*, Vol. VII, No. 3, Oct. 6, 1931.)—*S. g. brevicaudus* (p. 22), described from Aranjuez, Costa Rica and five races recognized.

**Wetmore, Alexander and Lincoln, Frederick C.**—A New Warbler from Hispaniola. (*Proc. Biol. Soc. Wash.*, Vol. 44, pp. 121-122, Oct. 17, 1931.)—*Microlegia palustris vasta* (p. 121).

**Yung, Yen Kwok.**—Birds from Yaoshan, Kwangsi. (*Bull. Dept. Biology*, No. 5, College of Science, Sun Yatsen Univ., Canton, China, 1930.)—An annotated list of 220 species. [In English.]

**Zimmer, John T.**—Studies of Peruvian Birds. I. (*Amer. Mus. Novitates*, No. 500, Oct. 15, 1931.)—Seven new forms are described belonging to the genera *Malacoptila*, *Conopophaga*, *Cercomacra*, *Schistocichla* and *Formicarius*, and there is a discussion on the status of many others. The studies are based upon the series of 17,000 Peruvian birds now in the American Museum.



**The Ornithological Journals.****Bird-Lore.**<sup>1</sup> XXXIII, No. 5. September-October, 1931.

My Window Studio. By Fannie Hoyt.—Excellent photographs of various birds at a feeding shelf.

Bird life on a City Lot. By Gertrude Mansfield.

Photographs of Trumpeter Swans in Wyoming. By F. C. Walcott.

Field-Notes on Marbled Godwits (with photographs). By H. H. Pittman and G. W. Monson.

There is an interesting note on spring migration in Louisiana. By George Lowery, Jr., and notes on Water Ouzels by C. M. Leonard and B. C. Hiatt in the Field Notes Department.

The Audubon Department article by Dr. Allen treats of the Canvasback with numerous photographs and a colored plate by Brooks.

**The Condor.**<sup>2</sup> XXXIII, No. 5. September-October, 1931.

Hummingbird Boarders. By Robert S. Woods.—Interesting experiments on wild birds to determine food preferences, behaviour, etc. Perfumes proved to have no attraction for them; red colors drew them at once while they paid no attention whatever to green.

History of a Nesting Colony of Caspian Terns on San Francisco Bay. By Dudley S. DeGroot.

Studies of Food and Growth of the Prairie Falcon. By F. H. Fowler.

Songs of the Baird Sparrow. By A. D. DuBois.—An elaborate list of utterances described by the syllabic method.

Some Changes in the Bird Life of Western Orange County, California. By J. McB. Robertson.

A New Species of Road-Runner from Quarternary Cave Deposits in New Mexico. By Hildegard Howard.—*Geococcyx conklingi* (p. 208).

There is a synopsis of the contents of Lichtenstein's paper on California birds, 1840, in Notes Department.

**The Condor.** XXXIII, No. 6. November-December, 1931.

Banding Canada Geese in California in 1931. By James Moffit.

Some Flocking Habits of the Crowned Sparrows. By John B. Price.—With detailed maps showing range of individual flocks.

The Scientific Name of the Western Sandpiper. By T. S. Palmer.—Historical.

**The Wilson Bulletin.**<sup>3</sup> XLIII, No. 3. September, 1931.

An Analysis of a Series of Photographs of the Common Tern. By P. S. Pettingill, Jr.

<sup>1</sup> Editor, Dr. Frank M. Chapman, Amer. Mus. Nat. Hist., 77th St. and Central Park, W., New York City. Subscription etc., to "Bird-Lore," Harrisburg, Pa. Bi-monthly, \$1.50 per year.<sup>2</sup> Editor, Dr. Joseph Grinnell, Mus. Vert. Zool., Univ. of California, Berkeley, Calif. Subscriptions etc., to J. McB. Robertson, Buena Park, Calif. Bi-monthly, \$3.00 per year (\$3.25 outside the U. S.).<sup>3</sup> Editor, T. C. Stephens, Sioux City, Iowa. Subscriptions etc., to Dr. Jesse M. Shaver, Peabody College, Nashville, Tenn. Quarterly, \$1.50 per year (\$2.00 outside the U. S.).

Ecological Factors in Migration. By Ruskin S. Freer.—An exceptionally fertile farm in the usually less fertile expanse of the Virginia Piedmont is a stopping-place for birds characteristic of such environments in Ohio but rare elsewhere in this Virginia area.

Pioneers in Economic Ornithology. By Mrs. H. J. Taylor.

Birds of Southern Louisiana. By Alfred M. Bailey and Earl G. Wright (concluded).

**The Oölogist.**<sup>1</sup> XLVIII, No. 9. September, 1931.

The Blue Goose.—In reviewing Mr. Sutton's paper in the July 'Auk' Mr. R. M. Barnes states that in all hybrid geese (Little Snow  $\times$  Blue) raised by him there were none of the white-bellied birds considered by Sutton to be hybrids.

**Bird-Banding.**<sup>2</sup> II, No. 4. October, 1931.

Some Details of the Migration Habits of White-throated Sparrows. By Mabel Gillespie.—Migration continues during the winter in addition to the wintering individuals.

Avian Mortality. By Oliver L. Austin, Jr.

On the Status of Juncos in the East Having White Wing-bands. By Lewis O. Shelley.—A summary of recorded specimens. The use of the term albinistic is rather loose; it can hardly be applied to a symmetrical arrangement of color such as the wing band, this, when it occurs in a species or race not normally possessing it, is more likely a reversion to an earlier type of coloration. Mrs. Gillespie's specimen of *aikeni* in Pennsylvania was very carefully described in life. In addition to very marked wing bands it was larger than *hyemalis* and had more extensive white areas on the tail.

Recoveries of Purple Grackles Banded at Paoli, Pa., 1923-1931. By Horace D. McCann.—Most birds went south along the coastal plane, a few to the north.

Some Notes on the Breeding of the Vesper Sparrow. By Lincoln Bryant, Jr.

**The Migrant.**<sup>3</sup> II, No. 3, September, 1931. Field Notes on the Sparrows of Tennessee. By George R. Mayfield.

Nesting Habits of the Parula Warbler. By F. M. Jones.

Along the Mississippi in August and September. By Ben B. Coffey, Jr.

**Iowa Bird Life.**<sup>4</sup> I, No. 3, September, 1931.

Notes on Iowa Birds.

**The Raven.**<sup>5</sup> II, No. 8-9, August-September, 1931. [Mimeographed Journal.]

Notes on birds of Virginia.

<sup>1</sup> Editor and Publisher, R. M. Barnes, Lacon, Ill. Monthly, 50 cts. per year.

<sup>2</sup> Editor, Charles L. Whittle, River Crossroads, Peterboro, N. H. Subscriptions etc., to Charles B. Floyd, 95 South St., Boston, Mass. Quarterly, \$1.50 per year.

<sup>3</sup> Editor, George B. Woodring, 1414 Stratton Ave., Nashville, Tenn. Quarterly.

<sup>4</sup> Editor, Fred J. Peirce, Winthrop, Iowa. Quarterly, 50 cts. per year.

<sup>5</sup> Editor, Dr. J. J. Murray, Lynchburg, Va. (Mimeographed Journal).

**Aviculture.**<sup>1</sup> (Series II) III, Nos. 9 to 11. September, October, and November, 1931.

Brief Notes on Asiatic Birds. By R. M. deSchauensee.—With personal observations in Siam (Nos. 9 and 10).

Notes on Birds of England's Metropolis. By R. W. Sheppard.—(Nos. 9 and 10.)

Numerous articles on cage birds and aviaries.

Colored plates by Plath of *Chloropsis aurifrons*, *Pyrrhuloxia tabuensis* and a group of Weaver Finches, in the three numbers, respectively.

Our Trip to Old Mexico. By J. H. Arnold.—(No. 11.)

**The Ibis.**<sup>2</sup> (13 series) I, No. 4. October, 1931.

Notes on Some Birds of the Bauchi Plateau [Africa]. By J. Dent Young. François Le Vaillant, 1753–1824, an Early French Ornithologist. By W. L. Sclater.

The Maroon Pigeon of Sao Thome. By D. A. Bannerman.—Last example taken forty-three years ago.

Occurrence of Kittiwakes on North Atlantic Steamer Routes. By Thomas McKittrick, Jr.

Account of Birds Collected in Sierra Leone and French Guinea. By D. A. Bannerman.

Birds from Central South Africa. By N. B. Kinnear.

Anatomical Review of the Waders. By Percy R. Lowe.—Arrangement of the suborders, Grues, Gru-Limicolae, Limicolae and Lari-Limicolae and their genera, composing the order Telmatomorphae, outlined in the last issue, with detailed anatomical studies of all but about six genera. A most important phylogenetic paper.

**British Birds.**<sup>3</sup> XXV, No. 4. September, 1931.

On the Normal Flight-Speed of Birds. By T. H. Harrison. Taken by comparison with a moving car or motor cycle. Speed for most small birds ranges from 29 to 36 miles per hour but it varies considerable in the same species and most of the records are lower than those given by Meinertzhagen (Ibis, 1921).

Effect of Severe Weather on Bird Song. By H. G. Alexander.

**British Birds.** XXV, No. 5. October, 1931.

Movements of Ringed Birds from Abroad to the British Isles and from the British Isles Abroad. By H. F. Witherby and E. P. Leach.—Interesting summaries and maps which show enormous flights of starlings com-

<sup>1</sup> Editor, C. T. Metzger, 6312 South Ashland Ave., Chicago, Ill. Monthly, 50 cts. per number.

<sup>2</sup> Editor, C. B. Ticehurst, Saxon House, Appledore, Kent, England. Subscriptions etc., to E. C. Stuart Baker, 6 Harold Road, Upper Norwood, London, S. E. 19, England. Quarterly, 52 shillings per year.

<sup>3</sup> Editor, H. F. Witherby, 326 High Holborn, London, England. Monthly, 20 shillings per year.

ing from Poland, Germany, Norway, Sweden, Denmark and Holland; and the wintering of British birds in southern France, Portugal and Spain, as well as the wintering of the European Swallow in south Africa.

**British Birds.** XXV, No. 6. November, 1931.

Field Habits of the Hobby. By D. Nethersole-Thompson.

The Feeding of the Sparrow-Hawk. By J. H. Owen.—A bird allied to our Sharp-shinned Hawk. It has been seen making flimsy platforms in trees in winter, possibly feeding platforms, but it would seem more likely that they are due to an abnormal nest building stimulus.

**The Oologists' Record.**<sup>1</sup> XI, No. 3. September, 1931.

Trinidad: First Impressions. By C. F. B.

Notes on Nesting of the South African Marsh Warbler (*Notiocichla baeticata*). By H. W. James.

Discovery of Eggs of Banded Stilt. By the Editor from paper by L. Glauert and C. F. H. Jenkins (Jour. Royal Soc. Western Australia).

Notes on the Breeding of *Burhinus s. senegalensis*. By C. R. S. Pitman.

A Study of the Rhinoceros Auklet and Other Birds in British Columbia in 1929 and 1930. By C. J. Young.

**Bird Notes and News.**<sup>2</sup> XIV, No. 6. Summer, 1931.

The Preservation of Seabirds.

Birds of Cornwall's Rugged Cliffs. By Lt. Col. B. H. Rives.

Some Transvaal Bird Memories. By T. Hyde-Parker.

There is an excellent photograph of a Pomarine Jaeger at sea; also many interesting articles on bird protection in England in both this and the Autumn issue.

**Avicultural Magazine.**<sup>3</sup> IX, Nos. 9, 10, 11. September, October and November, 1931.

In No. 9 there is an account of the nesting of Harris's Sparrow in the aviary of Mr. W. Shore Baily in England and the record of the first known eggs of this species, unless those found by Mr. G. M. Sutton at Churchill were of earlier date. The death of a Goldfinch is recorded which reached the age of sixteen and a half years.

No. 10 has an illustrated account of the new bird house at the St. Louis Zoo and of four specimens of the Cock-of-the-Rock on exhibit there; also a record of a hummingbird (*Riccordia*) which lived for three years and four months in the New York Zoo, a record for hummers in captivity.

<sup>1</sup> Editor, Kenneth L. Skinner, Brooklands Estate Office, Weybridge, Surrey, England. Quarterly, 5 shillings per year.

<sup>2</sup> Quarterly. Royal Society for Protection of Birds, 82 Victoria St., London, England S. W. 1.

<sup>3</sup> Editor, D. Seth Smith, Zool. Society, Regent's Park, London, N. W. 8, England. Subscriptions etc., to Miss Knobel, 86 Regent's Park Road, London, N. W. 1. Monthly, £ 1 per year.

In No. 11 there is an article on collecting in Guiana by C. S. Webb.

The colored plates represent Two rare manikins (*Chiromachaeris manacus* and *Chiroziphia pareola*) in No. 9 and the Turquoise Parakeet (*Nephema pulchella*) in No. 11.

**The Emu.**<sup>1</sup> XXXI, Part 2. October, 1931.

The Shining Flycatcher (*Piezorhynchus alecto*). By W. D. K. MacGillivray with a colored plate from painting by N. H. Cayley.

The Lotos Bird (*Irediparra gallinacea*). By N. J. Favaloro.—A study of the bird and its nesting. The five races separated by Mathews are not regarded as valid.

Historical Associations and Early Records of the Emu-Wren. By K. A. Hindwood.—A full history of this interesting bird with reproductions of early illustrations of it.

Home Life of the Kestrel. By Michael Sharland.—A study of the Australian *Falco cenchroides*.

Notes from North-western New South Wales. By C. Sullivan.

Birds of the Wairarapa Plains. By R. H. D. Stidolph.

Nesting Notes from Willis Island. By Eric Reithmüller.

Cormorants in Relation to Fisheries. By A. H. E. Mattingley.—A plea for the protection of these birds.

Habits of the Silvereye. By Mrs. A. S. Wilkinson.

**The South Australian Ornithologist.**<sup>2</sup> XI, Part. 4. October, 1931.

Observations on the Western Bower-Bird. By J. Neil McGilp.—With photograph of its bower.

Notes and local lists for Western Australia.

**Alauda.**<sup>3</sup> (Series II) III, No. 3. September, 1931. [In French.]

Geographic Variation in *Bubo bubo* Linn. By G. Dementieff.—*B. b. evermanni* (p. 361) from Tourngly, Sea of Aral, and *B. b. auspicabilis* (p. 364).

Contributions to a Study of the Avifauna of Northern France. By U. A. Corti.

The Phenomenon of Bird Migration. By Ivar Hortling.

Preliminary Note on Birds of the Genera *Mesoenas* and *Monias*. By L. Levauden.—With a photograph of the nest of the former.

Remarks on the Osteology and Systematic Arrangement of the Serins. By N. Mayaud.

A Contribution to the Ornithology of the Eastern Pyrennees. By Henri Jouard.

<sup>1</sup> Editor, C. E. Bryant, 168 Latrobe St., Melbourne, Australia. Quarterly 21 shillings per year (H. F. Witherby, 326 High Holborn, London, S. W. 1, England, agents).

<sup>2</sup> Editor, J. B. Cleland, 12 Fullarton Road, Mitchan, South Australia. Quarterly, 12 shillings per year.

<sup>3</sup> Editor, Paul Paris, 51 Rue Monge, Dijon, France. Quarterly, 75 francs per year (60 francs in France).

Food Notes. By Heim de Balsac and N. Mayaud.—List of berry bearing trees, shrubs and herbs with French birds that feed upon them.

**L'Oiseau.**<sup>1</sup> I, No. 8-9. August-September, 1931. [In French.]

The Genus *Neoleucotreron*. By M. Hachisuka.—With a colored plate of the species.

Description of New Races of Birds from Mindanao. By M. Hachisuka.—Genera *Mirafra*, *Caprimulgus* and *Turnix*.

Descriptions of Nine New Birds from Madagascar. By J. Delacour.—In the genera *Coua*, *Nesillas*, *Neomixus*, *Berniera*, *Coracina*, and *Schetba*.

Migration and Exceptional Residence of Crossbills and Ring Doves in the Department of Haute-Vienne. By R. d'Abadie.

Notes on bird cages and short avicultural notes.

**Le Gerfaut.**<sup>2</sup> XXI, Fasc. 1 and 2. 1931. [In French]

Notes on Belgian Birds.

**Journal für Ornithologie.**<sup>3</sup>—LXXIX, Heft 4. October, 1931. [In German.]

A Contribution to the Morphology and Development of the Tongue in Trochilidae, Meliphagidae and Picidae. By H. Scharnke.

The Birds of the Kurile Islands. By Y. Yamashima.—Annotated list of 239 species with tables of distribution and comparison with the avifauna of Japan and Kamchatka.

Breeding Places of *Oidemia fusca* and *Arenaria interpres*. By F. E. Stoll.

Descriptions of New Birds from Africa. By O. Neumann.—*Poicephalus guelmi pernistus* (547) Eldoma Ravine; *Agapornis taranta nana* (p. 550) Gofa; *Caprimulgus koesteri* (550) Benguella; *Cisticola emini barbunduensis* (551) Benguella.

Bird-Life on the Obedska Bara. By H. Steinmetz, Jr.

Three Letters of C. L. Brehm to H. Lichtenstein.

**Der Ornithologische Beobachter.** XXIX, Heft 1. October, 1931. [In German.]

Notes on cormorants, starlings and other birds of Switzerland.

**Ornithologische Monatsberichte.**<sup>4</sup> XXXIX, No. 5. September-October, 1931. [In German.]

<sup>1</sup> Editors, J. Berlioz and J. Rapine. Subscriptions etc., to M. Legendre, 25 Rue La Condamine, Paris (XVII e), France. Monthly, 100 francs per year (75 francs in France).

<sup>2</sup> Editor, Ch. Dupond, Square Prince Charles, 21 Bruxelles-Larken, Belgium. Quarterly, 5 Belgas per year (20 francs in Belgium).

<sup>3</sup> Editor, Erwin Stresemann, Berlin, N. 4, Zool. Museum, Invalidenstr. 43. Subscriptions etc., to R. Friedlander & Sohn, Berlin 6, Karistr. 11. Quarterly, 8 marks per year.

<sup>4</sup> Editor, Erwin Stresemann, Berlin. Bimonthly, agent same as for the last. 8 marks per year.



Observations on the Eyrie of the Sparrow Hawk.

Three articles by W. Moller, F. Döhling and P. A. Loos deal with the nectar feeding of hummingbirds.

Two new pigeons are described by Ernst Hartert: *Chalcophaps indica minima* (p. 144), Numfor and *C. i. maxima* (p. 145) Goplapabung.

Grote also proposes *Emberiza pallasi suschkiniana* (p. 150) as a substitute for *C. p. montana* Suschkin, preoccupied.

**Beiträge zur Fortpflanzungsbiologie der Vögel.**<sup>1</sup> VII, No. 6. November, 1931. [In German.]

A Contribution to the Breeding Biology of the Crane. By L. Schuster (continued).

On the Breeding Biology of the Ringed Plover (*Charadrius dubius europaeus*). By W. Libbert.

Observations on the Nest of the Short-eared Owl. By E. Christoleit. Also numerous notes on nests and eggs and breeding habits. Plate XI presents portraits of the late Hermann Johansen, Fritz Braun and Joseph Gengler, noted German ornithologists.

**Der Vogelzug.**<sup>2</sup> II, No. 4. October, 1931. [In German.]

Further Remarks on Bird Flight and Adverse Wind. By Erich von Holst.

Investigation of the Body Temperature of Migrating Birds. By Franz Groebbels.

Results of Some Bird Banding in Denmark. By O. Fabricius and A. Vendel Taning.

Many notes on bird-banding and migration and a very full bibliography of the literature of the subject.

**Der Ornithologische Beobachter.**<sup>3</sup> XXVIII, Heft 12. September, 1931. [In German.]

On the Breeding Habits of the Alpine Swift (*Micropus melba melba*). By Max Bloesch.—With photographs of nest and young, and other papers on the same species.

**Orgaan der Club van Nederlandsche Vogelkundigen.**<sup>4</sup> IV, No. 2. October, 1931. [In Dutch.]

A Contribution of our Knowledge of the Avifauna of Schokland. By C. G. B. E. Ten Kate, G. van der Meer and P. G. Op de Coul.

Also many notes on birds of Holland.

<sup>1</sup> Editor, Ludwig Schuster, Berlin Sudende, Hermannstrasse 15, Germany. Bi-monthly, 6 marks per year.

<sup>2</sup> Editor, Dr. Rudolf, Helgoland, and Dr. Ernst Schuz, Rossiten, Germany. Subscriptions to R. Friedlander & Sohn, Berlin N. W. 6, Karlstr. 11. Quarterly, 8 marks per year.

<sup>3</sup> Schweizerische Gesellschaft für Vogelkunde und Vogelschutz, Bern, Spitalgasse 26, Switzerland. Monthly, 10 francs per year (8 francs in Switzerland).

<sup>4</sup> Secty. to Editorial Board, Dr. C. G. B. Ten Kate, Kampen, de la Sablonierkade 31, Zutphen, Holland. Quarterly.

**El Hornero.**<sup>1</sup> IV, No. 4. August, 1931. [In Spanish.]

Birds of the Valley of Reartes (Cordoba). By Alberto Castellanos.—An excellent list with much detailed observation.

The Family of the Owls. By Jose A. Perreyra.—Argentine species considered.

Notes on Some Birds of South Georgia Island. By Alberto Carcelles.

Notes on Birds of Northeastern Argentina (Prov. Jujuy). By Emilio Budin.—A List of eighty-five species.

Numerous notes dealing with Argentine ornithology, proceedings of societies, etc.; with several items on Hudson and a photograph of his birth-place.

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<sup>1</sup> Editor, Dr. Roberto Dabbene, Museo Nacional de Hist. Nat., Peru 208, Buenos Aires. Quarterly, \$10. per year.

## CORRESPONDENCE.

To Associates, Members and Fellows of the American Ornithologists' Union:

Deep concern on the part of many of us for the future as well as the immediate welfare of the Union has led to the definite question: Is it not desirable, and *possible*, that the functions and benefits of the Union be more permanently insured and more widely extended than they are at the present time? While it can be said that our organization is serving in all its aims in fairly gratifying measure, and has been from the outset, is this service rendered in as full amount as it *should* be, consistent with the rate of progress in science at large? Considering the huge expansion in support and in service of organizations concerned with other fields of science, has not the A. O. U. in reality been left behind? Especially is this enquiry pertinent when we take into account the great spread of lay interest in birds.

Our Union's strength depends upon its service in promoting the highest ideals of scholarship and attainment in ornithology. To accomplish this, increased resources are needed not only for publishing a larger "Auk" and frequent check-lists and periodic indexes, but also for publishing worthy and extensive monographs such as we cannot now attempt; for the establishment of medals and honoraria stimulative of activity in pure research in our field; for the increased exercise of the Union's influence in obtaining sound practice in bird protection, in administration of wild-life resources, and in popular education.

What the American Ornithologists' Union should have in the future is greatly increased *funds to work with*—financial support to enable it to carry out its purposes in measure consistent with the age. It is hereby urged that members of the Union, those among us who are convinced that worthy service can be rendered by the Union on a larger and better scale, take the proper steps, each on his own account, toward insuring such expansion—by remembering the Union in his *will*. It may be objected that now, at the bottom of a general financial sag, is no time to suggest benefaction. On the other hand, the present time, of generally limited resources and incomes, is likely the best time for making soundest plans for the ultimate disposition of one's estate. Good times will return; and a seemingly meager prorate item now may amount to a considerable sum in later years.

Serious attention is invited to this matter, vital to the future of the Union. While this is of course wholly a private affair with each individual, should any A. O. U. member desire further information concerning the organization of the Union, or as to such factors as proper form of bequest, for any special object or for general purposes, correspondence is invited.

JOSEPH GRINNELL, *President*.

Museum of Vertebrate Zoology,  
University of California,  
Berkeley, California.

[Dr. Grinnell's appeal is most opportune since we regret to say that 'The Auk' finds itself today with but half the necessary funds to publish the April and July issues for 1932 in their usual size, and unless financial help is forthcoming these numbers must be reduced proportionately. Had we a reserve publication fund such temporary situations could be taken care of without sacrificing any part of the Journal.—WITMER STONE, *Editor.*]

## OBITUARIES.

HENRY PHILEMON ATTWATER. By the death of Henry Philemon Attwater, who passed away at his home in Houston, Texas, on September 25, 1931, the state has lost a citizen to whom it owes much.

Born in London, England, April 28, 1854, he spent his boyhood days on a farm in Wiltshire, and was educated at St. Nicholas Episcopal College, at Shoreham, in Sussex. In 1873 he emigrated to Canada, where he ultimately became interested in the bee industry, and invented an improved beehive. In 1885, while in Canada, he was married, and his wife now survives him.

In 1889 he removed to San Antonio, Texas, where much of his time was occupied in agricultural and horticultural experiments, and investigations of the natural products and resources of the State. He frequently lectured on these subjects at fairs and expositions, where he often was responsible for museum displays. His interest in the agricultural development of the state led to his engagement by the San Antonio and Aransas Pass Railroad Company to make exhibits at the State Fair and Waco Cotton Palace in 1892-1893, and during the succeeding years he occupied several positions of similar nature in various organizations.

Finally, in 1900, he was appointed agricultural and industrial agent of the Southern Pacific Railroad, and at this time changed his residence from San Antonio to Houston. During the years intervening between this time and 1913, he, in many ways, actively promoted the agricultural interests of the state, and, as railroad industrial agent, assisted in the work of commercial clubs, fairs, farmers' institutes, and other organizations. It is difficult to estimate his influence on the development of Texas, particularly agriculturally and industrially, for he was a prime mover in many of the important efforts that were in those years made to advance the welfare of his adopted State.

His interest in natural history dates back to his residence in Canada, where he became attracted to collecting birds, mammals, and other natural history specimens for museums and other scientific institutions. This interest continued throughout his life, and much of the material that he collected found its way into the United States National Museum, the American Museum of Natural History, and other well known collections, both public and private. Whenever opportunity presented, he was an indefatigable collector and an excellent observer, and he apparently was more interested in birds than in any other branch of natural history.

He was always earnestly devoted to the protection of birds and other wild life, and his lectures and newspaper articles had an important influence on the movements for conservation in the State of Texas. Without much doubt, he was responsible for the Texas bird law, for he was the first in the state to present the real facts concerning the importance of bird life in its relation to human welfare.

He joined the American Ornithologists' Union as an Associate in 1891, and became a Member in 1901; and he was always interested in its welfare. He continued his ornithological activities almost until the last, although the duties of a business career often interfered with the carrying out of his desires for natural history work.

Professor Attwater, as he was commonly called in Texas, was a man of pleasing personality and an untiring worker. He was also ready to assist any one who wished information or material that he could furnish; and perhaps no one in Texas has done more to advance the cause of ornithology in the State than has Henry Philemon Attwater. Scarcely any one who has written on Texas birds during the past forty years has not been directly or indirectly aided by Mr. Attwater's activities.

For one who has done so much in natural history, his published writings, outside of his newspaper articles, are relatively few. The most important are as follows:

List of Birds Observed in the Vicinity of San Antonio, Bexar County, Texas. 'The Auk,' IX, No. 3, July, 1892, pp. 229-238; No. 4, October, 1892, pp. 337-345.

Boll Weevils and Birds, published by the Southern Pacific Railway Company, November, 1903, pp. 1-11.

Use and Value of Wild Birds to Texas Farmers and Stockmen and Fruit and Truck Growers. Bulletin No. 27, Texas Department of Agriculture, 1914, pp. 1-64.—HARRY C. OBERHOLSER.

JEAN STOLZMANN, Vice Director of the Polish Museum of Natural History, died in his native city of Warsaw, Poland, April 29, 1928.<sup>1</sup> He was born in 1854 and at the age of eighteen began his scientific studies in the University of Warsaw. In his early youth he was fond of reading the works of Mayne Read, Jules Verne and Aymard, which fired his ambition for travel and exploration. About the time that he entered the University he met Taczanowski, Curator of the Zoological Museum of Warsaw, and through him became acquainted with Constantine Jelski, Benedict Dybowski, Victor Godlewski, Michel Jankowski, and Jan Kubary, a group of Polish naturalists who later became active in collecting in distant quarters of the globe. It was through Taczanowski also that he met Counts Constantine and Alexander Branicki and Colonel, later, General Przewalski, who had recently returned from his first expedition to northern Tibet.

In 1874 Jelski, who had been collecting in Peru as a correspondent of the Museum, entered the service of the Peruvian Government and Stolzmann was recommended for his place by Constantine Branicki. In 1875 Stolzmann set out on his first trip to South America and in company with Jalski explored the country about Chimbote, Tumbes, and Lechugal, Peru, and later traversed the same regions alone. He then left the coast and

<sup>1</sup> Jan Sztolcman, better known to American ornithologists as Jean Stolzmann, was nominated as a Corresponding Fellow of the American Ornithologists' Union in the summer of 1928, before the news of his death was generally known.



visited the Cordillera in the interior and carried on his exploration as far as the valleys of the Huallaga and the Marañon. He finally descended the Amazon, reached Para, and sailed for Europe in 1881. After his return home he remained but a short time before he undertook a second expedition in company with Dr. Joseph Siemiradzki, Professor of Geology at the University of Lvov. On this trip he sailed from Bordeaux in June, 1882, crossed the Isthmus of Panama and from Callao, Peru, visited the west slope of the Andes in Ecuador and continued his exploration during the following year. According to Chapman, "Stolzmann was the first really good bird collector to visit Ecuador. He secured not only a large number of specimens but made excellent reports on the country visited."<sup>2</sup>

Shortly after Stolzmann's return in 1884, Count Constantine Branicki died, and in 1887 when his son Xavier and his cousin Ladislas decided to found the Branicki Museum, Stolzmann became its Director, a post which he held until 1919, when the Branicki Museum and the Museum of Warsaw were united as the Polish Museum of Natural History. In his later years he undertook but one other extended field expedition, that to the Sudan with Count Potocki in 1901.

Stolzmann was very fond of hunting and frequently spent his autumn vacation visiting Count Branicki at the Chateau de Montrésor in the department of Indre et Loire, France. He also visited Bealystok, the Ukraine and other noted hunting localities in Russia. He was the founder of the Societe 'Cynegetique de Pologne' and of the journal 'Chasseur Polonais' and took an active part in the work of the 'Conseil pour la protection de la Nature en Pologne,' published an important contribution on the European bison and many shorter articles on sport and hunting.

He was interested chiefly in systematic ornithology and especially in Neotropical birds. He described over his own name or in coöperation with others more than 150 new species and subspecies. In recognition of his work his name has been applied to at least 9 birds in the genera *Catharus*, *Colaptes*, *Elaenia*, *Haemophila*, *Oreotrochilus*, *Phoenicothera*, *Pipra*, *Sitta*, and *Urothraupis*; a mammal; a butterfly and several other insects.

Stolzmann's scientific papers, 28 in number, give a very imperfect idea of his ability or his activity as a writer. They were usually written in French and about half of them were published in coöperation with Taczanowski, Berlepsch, and Domaniewski. Much the larger part of his literary work is in Polish and unfortunately inaccessible to most English readers. The list includes 10 separate works, the most prominent being 'On the Borders of the Blue Nile,' 1902; his book on Peru, 1912; 3 translations; and a series of 321 popular articles on birds, mammals, sport, and miscellaneous subjects, so that his complete bibliography contains 362 titles. A biography by Domaniewski, accompanied by a list of his publications and his portrait, may be found in the *Annales Musei Zoologici Polonici*, VIII, pp. 23-48, 1929.—T. S. P.

<sup>2</sup> Dist. Bird Life in Ecuador, p. 729.

CHARLES WILLIAM JENKS, an Associate of the American Ornithologists' Union since 1912, died December 25, 1929. Youngest son of John Henry Jenks and Mary Rand (Fitch) Jenks, he was born in Boston, October 3, 1848. As a boy he attended the Phillips and Boston Latin Schools, and, later, went to Harvard, graduating in the class of 1871. After graduation he was associated with the firm of L. Hollingsworth & Co., paper manufacturers, first at their factory in Groton, Mass., where he remained until 1881, and then in their Boston office, until 1883, when he gave up business on account of poor health. He never married.

Being particularly interested in botany, agriculture and horticulture, as well as in birds, mammals and outdoor life in general, he took a post-graduate course in 1883-1884, at Harvard, in the Bussey Institution, and then moved to an ancestral farm in Bedford, Mass., where he continued to live until his death.

Though by nature rather retiring, he was always interested in town affairs, filling such positions acceptably at various times, and in spite of his frail physique, seems to have kept up with outside affairs by his will to carry on.

In addition to the A. O. U., he was a member of the New England Botanical Club, Massachusetts Horticultural Society, Boston Society of Natural History, University Club of Boston, Appalachian Mountain Club, Unitarian Club, Reform Club, and Concord Antiquarium Club. He was a friend of such well-known ornithologists as Walter Faxon, Walter Deane, Henry A. Purdie, and William Brewster.

After his death, his small collection of mounted birds and eggs was given to a school in Bedford, and his collection of skins of local birds to the Museum of Comparative Zoology, while his very interesting herbarium went to the Gray Herbarium of Harvard University.—FREDERIC H. KENNARD.

GEORGE MARTYN MCNEIL, an Associate of the A. O. U. since 1920, died by his own hand in a fit of despondency, at Grand Rapids, Mich., August 26, 1930. Born at Winthrop, Mass., December 23, 1891, the only child of William Gordon and Lillian Nye McNeil, he early showed his love of birds and nature and a devotion to taxidermy that interfered with his schooling. No persuasion by his parents could convince him that he should attend school beyond the legal requirement and he entered the plumbing business with his father with no further ambition than to earn sufficient money to follow up his love of collecting and mounting birds. Thus he was handicapped from the start.

When the United States entered the World War he enlisted and was assigned to a munitions plant near Baltimore. Here, while assisting an injured companion from a pit where he had been repairing a gas leak, he inhaled some of the deadly fumes. When partially recovered, he was run down by a truck and the combination of injuries from which he never fully recovered, was perhaps the real cause of his unhappy end.

Receiving disability compensation from the Government, he elected to

go to Cornell University as a vocational student where he studied under L. A. Fuertes and A. A. Allen and displayed such enthusiasm, sincerity and devotion to his work that he was an inspiration to those who came in contact with him.

On January 31, 1922, he married Lillian Henry and continued his studies in the art of taxidermy and sculpture at the American Museum in New York and at the Field Museum in Chicago. Completing his training he found employment at the Childs Museum in Detroit and later at the Kent Scientific Museum in Grand Rapids, Mich.—A. A. ALLEN.

LILIAN HEAVEN STURGE, an Associate of the American Ornithologists' Union since 1927, died after an operation at the Moses Taylor Hospital in Scranton, Pa., November 24, 1930.

The daughter of Jane Stephens and Arthur Gyde Heaven, she was born at Portis-head in England in 1876. Moving with the family to Canada when she was eight years of age, her girlhood was spent in the beautiful home "Glenside" near Oakville on the shores of Lake Ontario, and her education was received at the Bishop Strachan School in Toronto where she became the gold medallist of her class in 1893. Her marriage to Dr. Edgar Sturge in 1902 brought her to Scranton, Pa., where she soon became actively interested in the religious, civic and social life of the city and where, untiring in her support of every cause for the betterment of conditions, she became a recognized leader in the many different branches of social work and outdoor activities which held her interest and enthusiasm throughout her life.

A charter member of the Scranton Bird Club, she served as Vice-President for a number of years being especially helpful as leader of the mid-winter elementary class in bird study in which she enlisted the interest of many Girl Scouts, in whose organization she served for two years as Commissioner.

Always an appreciative student and lover of nature she absorbed much of its refreshing stimulus, establishing within herself something profoundly satisfying which had a decided influence upon those with whom she came in contact. Perhaps it was this which marked her as an outstanding personality and one widely sought for her sympathetic understanding and helpful guidance. Her loss has been irreparable throughout the community, though her example will ever remain a cherished memory of those who were close to her.

She is survived by her husband, a son, and a daughter also a legion of friends in many different walks of life. Among the various memorials established in her honor now stands in Nay Aug Park, a mountain ash tree—a living memorial, which will add beauty to its surroundings and provide food for the birds which pass this way.—A. A. COFFIN.

#### NOTES AND NEWS.

WITH the beginning of a new year of 'The Auk' a few words of explanation as to the arrangement of matter seems desirable. With the new 'Check-List' at last available the nomenclature of all articles and notes published in 'The Auk' will be made to conform to it, unless the author explicitly desires to use a different name, in which case the 'Check-List' name will appear somewhere in the text or as a footnote. The sequence of species in all articles will follow the 'Check-List' and this will apply also to "General Notes" which are always arranged in systematic order with lists embodying several species following at the end, geographically.

A number of the more important books and articles will be reviewed more or less at length, as heretofore, followed by a *single* list of shorter papers and articles published in general journals, arranged alphabetically, with brief comment. The ornithological journals will be listed as before with their contents and will be arranged geographically beginning with the United States, as this seems to be the plan desired by the majority of our readers.

Every effort must be made to condense matter as much as possible as we are exceedingly short of funds for the coming year and the journal will probably have to be temporarily reduced in size. Prompt publication of the many papers awaiting attention will therefore be impossible and we beg lenience on the part of the authors.

We have received many requests for exchange of publications with various journals and societies but would explain that this is impossible except with those devoted wholly to ornithology and a very few others that have been on our exchange list since 'The Auk' was first established.

WHILE we have differed from Mr. Jack Miner in the matter of extermination of the Marsh Hawk and the crows we are heartily in accord with his recent appeal against the starlings. As he truly says "the way these birds are increasing is anything but a joke and will require the combined efforts of us all to control them." As we have repeatedly said they are crowding our native birds out of all areas where they establish themselves. They are good eating, and if the arms manufacturers would urge united action against them as they did some years ago against the crows, they would do a good service, while some means of trapping on a large scale in our cities, where they cover the large buildings at night, should be devised.

THE MIGRATORY Bird Conservation Commission has authorized the acquisition by the Federal Government of land for game-bird refuges in New York, North Dakota, Nebraska, Maryland, North Carolina, South Carolina, Florida, Wyoming and Nevada aggregating 43,227 acres.

ALL COAST Guard Stations on the Atlantic and Gulf Coasts have received instructions to report violations of the Migratory Bird Treaty Act regulations which come to their attention. This should prove a valuable check on illegal shooting of wild fowl and may help to stop the disgraceful slaughter of Woodcock at Cape May Point, N. J., and other localities where the birds concentrate during migration and where local authorities seem quite unable or unwilling to cope with the situation.

A NEW edition of the two volume set of Beebe's "Pheasants" has been published to meet the demand of persons who were unable to secure the work when first issued several years ago. Copies may be secured from the Game Conservation Society, Inc., 205 E. 42nd St., New York City. Price \$15.00.

COLONEL JOHN ELIOT THAYER of the Harvard Class of 1885 has just presented to the Museum of Comparative Zoology his collection of some 30,000 bird skins as well as his enormous collection of nests and eggs. This contains fine series of the eggs of several extinct birds as, for instance, ten of the Great Auk. There are also two big sets of eggs of the Brant and a number of other interesting species.

He has likewise given the Museum a very beautiful, mounted, adult male Laborador Duck. The Museum previously had no mounted specimens of this species and had only skins of one young male and one female in the study collection. Col. Thayer has retained his collection of mounted North American birds for his museum at Lancaster where the collection is of much use and is frequently visited by classes from the schools in the nearby towns and by Boy and Girl Scouts.

MANY READERS of 'The Auk' are aware of the great task undertaken by Biological Abstracts in supplying abstracts of the world's literature in biology. When it is realized that probably at least 50,000 original papers in this field are published annually, the great need of such an abstracting journal becomes obvious. It enables the individual biologist to keep in touch with current research in his particular speciality as well as with the general progress of biology.

As a means of furthering this coöperative enterprise, the editor of 'The Auk' is undertaking to attach to the galley proofs of longer papers a printed form furnished by Biological Abstracts. This form requests the author to furnish an abstract or summary of his research and gives brief directions for preparing the same. The abstracts are to be returned with the proofs for transmittal to, and publication in, Biological Abstracts.

Such requests will not be sent with the proof of purely taxonomic papers, since the abstracting of such contributions is a highly specialized undertaking probably best left to the editors of Biological Abstracts. Also, the brief "General Notes" do not require abstracts by the authors.

The abstract should *summarize* the research, not merely describe it. In general it should not exceed 3 per cent of the size of the original paper;

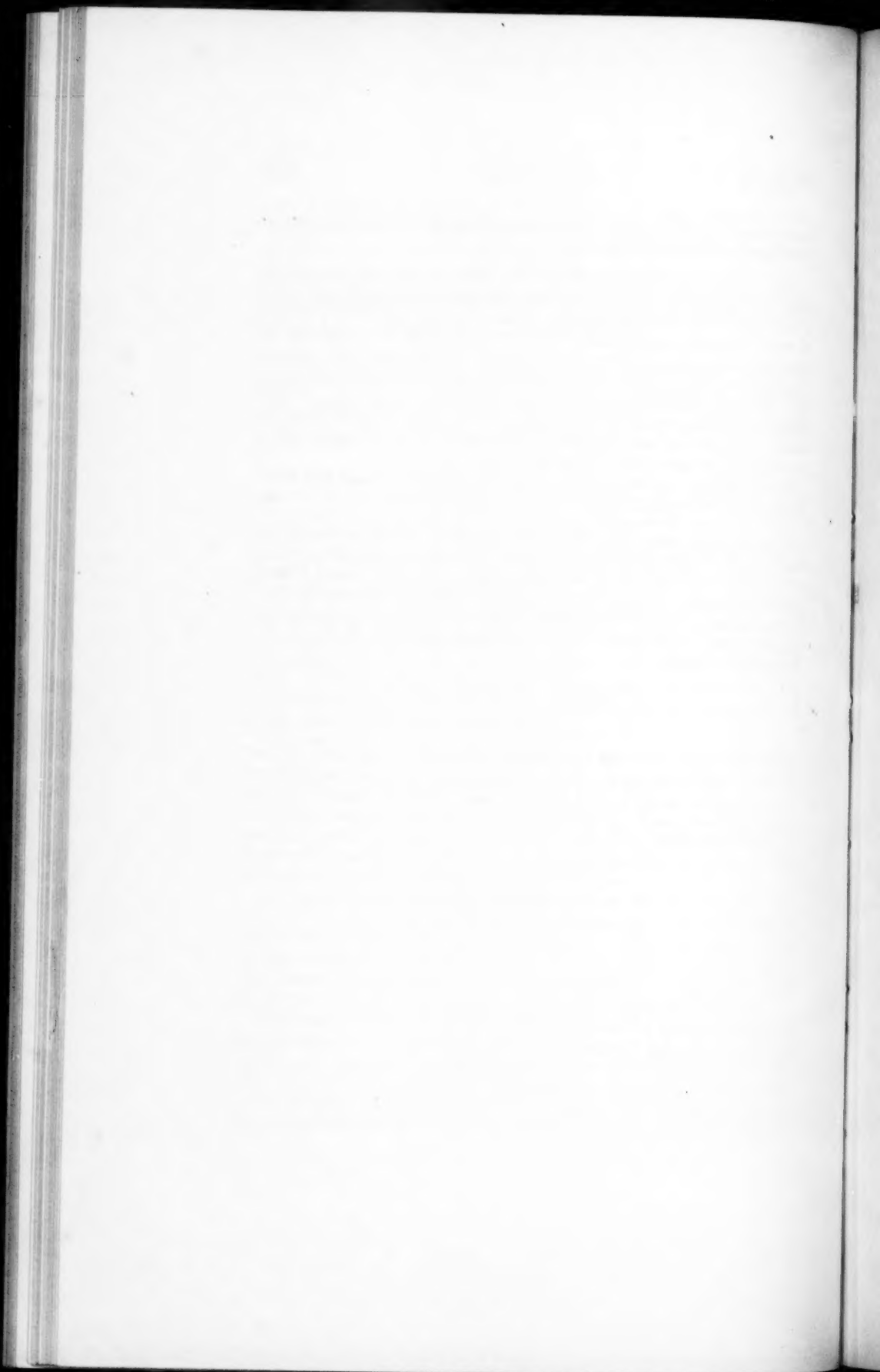
in most cases a much smaller percentage suffices for all essential informational and indexing requirements.

MR. ARTHUR H. HOWELL'S 'Florida Bird Life' is expected to be off the press by the first of the year and from the information presented in the prospectus will be a notable addition to state ornithologies. It is a volume of some 650 pages royal octavo ( $7\frac{3}{4} \times 10$  inches) with 37 color plates by Francis L. Jacques and many half-tones from photographs and numerous distributional maps. There is an historical account of Florida ornithology from the time of Bartram and Audubon down to the present day; biographies of the 423 species and subspecies of birds so far recorded from the state; a chapter on bird protection in Florida by R. W. Williams, and a bibliography of more than a thousand titles.

The book may be obtained from the Department of Game and Fresh Water Fish, Tallahassee, Florida, upon receipt of \$6.00.

PREPARATIONS are already under way at Quebec for the meeting of the A. O. U. to be held there next autumn. This meeting promises to be a particularly enjoyable one in a locality replete with natural and historic interest and every member who can possibly attend should make an effort to be present. Information regarding the meeting may be obtained at any time from the Secretary, Dr. T. S. Palmer, 1939 Biltmore St., N. W., Washington, D. C.





# THE AUK

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